





# **APPENDIX**

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IN THE  
**United States Court of Appeals**

FOR THE DISTRICT OF COLUMBIA.

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No. 8466.

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SPECIAL EQUIPMENT COMPANY, *Appellant*,

v.

CONWAY P. COE, COMMISSIONER OF PATENTS,  
*Appellee.*

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**Appeal from the District Court of the United States for the  
District of Columbia.**

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**APPENDIX TO BRIEF FOR APPELLANT.**

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**PLEADINGS, DOCKET ENTRIES AND OTHER PAPERS  
DESIGNATED BY APPELLANT.**

1           Endorsed: Filed May 21 1941 Charles E. Stewart,  
Clerk

In the United States District Court  
For the District of Columbia

Civil Action No. 11482

MARK EWALD, 410 Capitol Parkway, Olympia, Washington,  
*Plaintiff,*

v.

CONWAY P. COE, Commissioner of Patents, *Defendant.*

*Complaint.*

Action for Issuance of a Patent (R. S. Sec. 4915)

The plaintiff herein, for his complaint, alleges:

1. The plaintiff, Mark Ewald, is a citizen of the United States, and a resident of Olympia, in the County of Thurston and State of Washington.

2. The defendant, Conway P. Coe, is the Commissioner of Patents, of the United States, a legal resident of the District of Columbia, and is sued as Commissioner of Patents of the United States.

3. This complaint is filed in accordance with the provisions of the Federal laws of the United States, as provided in Section 4915 of the Revised Statutes (35 U. S. C. A. 63, as amended).

4. The plaintiff, Mark Ewald, on October 6, 1932, filed an application for Letters Patent in the United States  
2       Patent Office, which application is entitled "Fruit Treating Apparatus," and which was given the Serial Number 636,447.

5. The said application for patent was originally allowed October 27, 1938, and on October 26, 1939, the plaintiff Mark Ewald made renewed application for Letters Patent in the United States Patent Office upon said original appli-

cation entitled "Fruit Treating Apparatus," and which was given the same Serial Number 636,447.

6. Said original application and said renewed application for patent were filed in accordance with the laws of the United States and the rules of the United States Patent Office, and were duly prosecuted before the tribunals of the United States Patent Office and in accordance with the laws of the United States and the Rules of the Patent Office.

7. Said renewed application was passed upon by the Primary Examiner, who refused to allow any of the claims recited in Schedule A attached hereto, namely Claims 38, 39, 41 and 44.

8. Plaintiff, the applicant, appealed from the decision of the Primary Examiner to the Board of Appeals, which Board of Appeals, in a decision rendered November 22, 1940, affirmed the rejection of the Primary Examiner, whereby plaintiff was refused a patent under 35 U. S. C. A. Sec. 63, as amended.

3      9. The Commissioner of Patents, by the Board of Appeals, contends that Claims 38, 39, 41 and 44 are incomplete and broader than the invention disclosed by plaintiff in his application and to that extent misleading and cover constructions not contemplated by plaintiff in his application.

10. Plaintiff disagrees with these contentions of the Commissioner of Patents and contends that Claims 38, 39, 41 and 44 of the appended Schedule cover a proper subcombination of the invention disclosed by plaintiff in his said application; that said Claims 38, 39, 41 and 44 are not incomplete; that said Claims 38, 39, 41 and 44 are not broader than the invention disclosed by plaintiff in his said application; that said Claims 38, 39, 41 and 44 are in no wise misleading; that said Claims 38, 39, 41 and 44 do not cover constructions not contemplated by plaintiff in his said application; that said Claims 38, 39, 41 and 44 cover only proper subcombinations of the entire invention disclosed by plaintiff in the said application, and this for the purpose of the said invention disclosed by plaintiff in the said invention;

that the rejection of said Claims 38, 39, 41 and 44 was improper; that said Claims 38, 39, 41 and 44 recited in Schedule A attached hereto should be allowed.

11. Plaintiff Mark Ewald believes that the Board of Appeals erred in not allowing the said Claims 38, 39, 41 and 44, and erred in the interpretation of the Patent Statutes and the breadth of the invention disclosed by plaintiff in his said application.

4 12. No appeal has been taken, in respect to this application, to the United States Court of Customs and Patent Appeals, and this suit is filed within six months from the date of decision of the Board of Appeals.

13. Plaintiff further states that the said invention is new and useful and was not known or used by others in this country before his invention thereof, and not patented or described in any printed publication in this or any foreign country before his invention thereof, or more than two years prior to his application for Letters Patent therefor, and not in public use or on sale in this country more than two years prior to said application, and not in public use or on sale in this country more than two years prior to said application, and not patented in any foreign country by him or his legal representatives on an application filed more than twelve months prior to said application for United States Letters Patent and has not been abandoned.

14. Proffert of a copy of the record of plaintiff's original application for Letters Patent and the renewed application for Letters Patent upon said original application in the United States Patent Office is hereby made.

Wherefore, the said plaintiff prays that this Honorable Court adjudge and decree that plaintiff is entitled according to law, to receive a patent for the invention specified in the aforesaid claims which are recited in  
5 Schedule A hereto attached, that the Commissioner of Patents be directed to allow said Claims 38, 39, 41 and 44, and such other claims as upon hearing the Court may find

patentable, and for such other and further relief as may be in order and required.

MARK EWALD

By COX, MOORE & OLSON

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BALLARD MOORE

CURTIS F. PRANGLEY

LEWIS H. PHELPS, JR.

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6        Endorsed: Filed May 21 1941 Charles E. Stewart,  
Clerk

*Schedule A*

Claims

38. An automatic machine for preparing pears comprising a rotary turret having a plurality of pear holding means, bobbing means operable in succession upon the pears on said holding means for severing the necks of the pears transversely to the stem axes thereof, transfer mechanism co-operable with said turret for transferring the bobbed pears from the turret, a second turret including additional spaced holding means cooperable with the transfer mechanism to receive the pears from the transfer mechanism, means for moving said second turret and its holding means in synchronism with the first-mentioned turret and its holding means, paring and coring mechanism operatively associated with the path of movement of said additional holding means and mechanism for actuating said transfer mechanism and said paring and coring mechanism in timed relation to said turrets.

39. An automatic machine for preparing pears comprising an intermittently operating fruit turret having a plurality

of pear holding means, each comprising relatively shiftable members, means relatively shifting said members in timed relation with the intermittent movements of the turret to hold and release a pear, bobbing means operable in succession upon the pears while held in said holding means, additional shiftable pear holding means, transfer mechanism cooperable with said turret for transferring the pears after bobbing to said additional holding means, means for intermittently operating said turret and shifting said  
 7 additional holding means in synchronism, paring and coring mechanism mounted in the path of movement of said additional holding means, and mechanism for actuating said transfer mechanism and said paring and coring mechanism in timed relation to the movements of said turret and said additional holding means.

41. In an automatic pear processing machine, in combination with a support, a first turret mounted upon said support, means for intermittently rotating said turret, a plurality of spaced pear holders mounted on said turret, said holders comprising relatively movable members, actuating means synchronized with the movement of said turret for shifting said members relatively to grasp and hold a pear therein and thereafter to release said pear to permit the same to be moved from said fruit holder, pear bobbing means on said support and disposed in the path of movement of said first-mentioned turret and adapted to form a cut through the neck of the pear transversely to the stem axis of the pear while said pear is held in the fruit holder of the first turret, a second turret on said support and having a series of fruit holding means thereon, means for intermittently rotating said second turret in synchronism with said first turret, peeling mechanism operatively associated with said second turret to peel the pears while held thereon, and transfer mechanism associated with said first turret and adapted upon predetermined registration of the fruit holders of said first and second turrets to transfer the pear from the fruit holder of said first tur-



ret to the fruit holding means of said second turret.

8        44. In a fruit preparation machine, first and second rotary turrets, each provided with a plurality of spaced fruit holding members, means for intermittently operating said turrets in synchronism to a plurality of stations, the first turret at one of its stations receiving fruit on its fruit holding member at said station, bobbing means operable upon the fruit when the first turret is at a second station, means operable upon the fruit when the first turret is at a third station and the second turret is at one of its stations for transferring the fruit from the fruit holding members of the first turret to the fruit-holding members of the second turret, and mechanisms at subsequent stations of said second turret for paring and coring the fruit, and means for actuating said transferring means and said paring and coring mechanisms in timed relation to the movements of said turrets.

\*        \*        \*        \*        \*        \*        \*        \*

9        Endorsed: Filed Jun 6—1941 Charles E. Stewart,  
Clerk

*Answer to the Complaint.*

To the Honorable the Justices of the District Court of the United States for the District of Columbia.

1. Defendant admits the allegations of paragraph 1.

2. He admits the allegation of his official position. He denies that he is a legal resident of the District of Columbia, his legal residence being in the State of Maryland. He admits that his official residence is in the District of Columbia and that he is sued in his official capacity.

3, 4, 5, 6, 7, 8, 9. He admits the allegations of paragraphs 3 to 9, inclusive.

10. He admits that claims 38, 39, 41 and 44 of the application of plaintiff, Serial No. 636,447, entitled Fruit Treating Apparatus, are as set out in the Schedule appended to the Complaint. He denies that said claims cover a proper

subcombination of the invention disclosed by plaintiff in said application. He denies that said claims are complete. He states that said claims are broader than the invention disclosed by plaintiff in said application, that said claims are misleading, and that said claims cover constructions not contemplated by plaintiff in said application. He denies that the rejection of said claims was improper and denies that said claims should be allowed to plaintiff. He denies, for reasons aforesaid and for the reasons given by the primary examiner in his statement on the appeal and in the decision of the Board of Appeals, that plaintiff is entitled to receive a patent containing any of said claims.

11. He denies, for reasons aforesaid, that the Board of Appeals erred in not allowing said claims. He denies that the Board of Appeals erred in the interpretation of the patent law or the breadth of invention disclosed in plaintiff's application.

12. He admits the allegations of paragraph 12.

13. He admits that plaintiff in his said application made averments corresponding to the allegations of paragraph 13 but denies, for reasons aforesaid, that such allegations are sufficient to justify the issuance of a patent containing any of claims 38, 39, 41 and 44 of plaintiff's said application.

14. He admits that plaintiff should furnish to the Court at the trial copies of plaintiff's original and renewed applications for patent upon which this complaint is based.

W. W. COCHRAN,  
Solicitor, U. S. Patent Office,  
Washington, D. C.,  
*Attorney for Defendant.*

12      Endorsed : Filed Nov. 20, 1942 Charles E. Stewart,  
Clerk.

In the Dist. Ct. of U. S. for the Dist. of Col.

No. 11482. Civil Action.

Mark Ewald

v.

Conway P. Coe.

*Memorandum.*

Judgment for Defendant.

Notify Counsel.

Nov. 20th, 1942.

DANIEL W. O'DONOGHUE,

*Justice.*

•      •      •      •      •      •      •      •  
13      Endorsed : Filed Dec 14 1942 Charles E. Stewart,  
Clerk

*Findings of Fact.*

1. This is an action under R. S. 4915 (U. S. C., title 35, sec. 63) in which it was sought to have the Court find that the plaintiff, Mark Ewald, was entitled to have issued to him a patent containing claims 38, 39, 41 and 44 of his application, Serial No. 11,482, for a patent on a Fruit Treating Apparatus.

2. The plaintiff's application relates to the bobbing, coring, splitting, and paring of fruit and discloses a machine having two turrets, on one of which whole fruit is held and rotated past a bobbing means. After leaving this turret the fruit passes over a splitting knife which bisects it and the halves are then placed in holders on the second turret and moved to the coring and paring means.

3. As disclosed in the application the bobbing means can act only on whole fruit and the paring and coring means only on half fruit.

14        4. As disclosed in plaintiff's application, the splitting knife is an essential element of the combination and without it the two turrets could not combine to produce any useful result.

5. The claims in suit recite the two turrets in alleged combination, but omit the splitting means, which enable the turrets to coact with one another. Because of the omission of this essential element the claims are incomplete and fail to point out the plaintiff's invention as required by R. S. 4888.

6. Each of the claims in suit recites the transfer of the fruit from the first turret to the second. In the apparatus disclosed by the plaintiff's application the fruit leaves the first turret in one piece and arrives at the second turret in two pieces. It is misleading and inaccurate to describe this operation as a transfer and the claims, therefore, do not properly define the plaintiff's invention.

7. All the claims here involved are unpatentable in that they do not "particularly point out and distinctly claim the part, improvement or combination" which the plaintiff claims as his invention or discovery, as required by R. S. 4888.

*Conclusions of Law.*

1. The plaintiff is not entitled to a patent containing any of the claims set forth in the Complaint.

2. The Complaint should be dismissed as to all the claims involved.

DANIEL W. O'DONOGHUE  
*Justice.*

Dec. 14th 1942

\*   \*   \*   \*   \*   \*   \*   \*

15        Endorsed: Filed Dec 14 1942 Charles E. Stewart,  
Clerk

*Judgment.*

This action came on to be heard at this term and thereupon upon consideration thereof, it is this 14th day of December, 1942.

Adjudged that the complaint be and it is hereby dismissed, with costs against the plaintiff.

DANIEL W. O'DONOGHUE

*Justice.*

16      Endorsed: Filed Jan 11 1943 Charles E. Stewart,  
Clerk

*Notice of Appeal.*

Notice is hereby given that Mark Ewald, plaintiff above named, hereby appeals to the United States Court of Appeals for the District of Columbia from the final judgment entered in this action on December 14, 1942.

LOFTUS, MOORE, OLSON & TREXLER

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January 6, 1943

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74      Endorsed: Filed Jan 13 1943 Charles E. Stewart,  
Clerk

*Designation of Record*

It is hereby requested that the following papers and exhibits constitute the record in the appeal of the above action:—

1. The complaint (including Schedule A—claims).
2. Answer to the complaint.
3. Memorandum of Justice O'Donoghue, directing judgment for Defendant (yellow sheet).
4. Findings of fact and conclusions of law.
5. Judgement dismissing the complaint.
6. Notice of appeal.
7. The present designation of record.
8. Plaintiff's physical exhibits 2-10, inclusive. J. M. G.
- 8a. Plaintiff's Exhibit No. 1, J. M. G.
9. Defendant's exhibit No. 1.
10. Stenographic report of the evidence and proceedings at trial in the District Court.

JAMES M. GRAVES,  
*Attorney for Appellant,*  
961 National Press Building,  
Washington, D. C.

I hereby certify that a copy of the above Designation of Record has been mailed to Conway P. Coe, Commissioner of Patents, Washington, D. C., this 12th day of January, 1943.

JAMES M. GRAVES.

•   •   •   •   •   •   •   •

75      I, Charles E. Stewart, Clerk of the District Court of the United States for the District of Columbia, hereby certify the foregoing pages numbered 1 to 16, both inclusive, and 72, 73 and 74, to be a true and correct transcript of the record, according to designation by counsel filed and made a part of this transcript, and the matter

required by Rule 75 (g) of the Federal Rules of Civil Procedure, in action entitled Special Equipment Company, Plaintiff, vs. Conway P. Coe, Commissioner of Patents, Defendant, Civil Action No. 11482, as the same remains upon the files and of record in said Court, except the following:

Exhibit of plaintiff and defendant, pages numbered 76 to 329, both inclusive; also physical exhibits 2 to 10, both inclusive, of plaintiff, the originals of which have been ordered transmitted to the United States Court of Appeals for use on appeal in lieu of copies.

A copy of the transcript of proceedings and testimony, pages numbered 17 to 71, both inclusive, filed herein, as to the accuracy of which counsel has certified, is transmitted herewith.

In testimony whereof, I hereunto subscribe my name and affix the seal of said Court, at the City of Washington, in said District, this 13th day of February, 1943.

CHARLES E. STEWART,  
*Clerk.*

By CHAS. B. COFLIN,  
*Deputy Clerk.*

(Seal)

• • • • •

73      Endorsed: Filed Jan 26 1943 Charles E. Stewart,  
Clerk

*Order*

This action came on to be heard further this term on motion of Special Equipment Company that it be substituted as party plaintiff in place of plaintiff Mark Ewald and thereupon, upon consideration thereof, it is this 26th day of January, 1943

Ordered that the motion be and it is hereby granted, that Special Equipment Company be and hereby is substituted



as party plaintiff in the place of said original party plaintiff Mark Ewald.

JAMES M. PROCTOR  
*Justice*

**TESTIMONY.**

31 Henry A. Skog, a witness produced for and on behalf of the Plaintiff, having first been duly sworn, was examined and testified as follows:

The Clerk: State your full name, please.

The Witness: Henry A. Skog.

Direct Examination

By Mr. Prangley:

Q. State your age, your address and your occupation.

A. I live in Olympia, Washington; 512 North Central; my age is 51 years old, and my present job is engineer and superintendent for the Special Equipment Company.

Q. What does the Special Equipment Company manufacture? A. Principally, the peeling machine that is used by the canneries up and down on the Pacific Coast.

Q. How long have you been connected with that organization? A. Since May, in 1924.

Q. What is your background in the canning industry?

A. My first job in the canneries was in 1912 as a machinist's helper. Then, I went to the University of Washington,

32 taking an engineering course, and every year since then, except one, I have been working in canneries, along mechanical lines, either directly, as at first—as a helper, or supervising others to do the work; and, to trace that a little further, during my summer vacations, while in college, I spent my time in the canneries in Alaska, and, after leaving college, I spent four years and a half with the American Can Company as service man in the Northwest which position called on me to call on every cannery in the

Northwest, to keep the American Can Company's machines in adjustment.

Then, after leaving the American Can Company, I was superintendent of a fruit cannery in Kirkland, Washington, after which I went with the Olympia Canning Company in Olympia, Washington, in 1924.

Q. What is the relation between the Olympia Canning Company and the Special Equipment Company? A. Well, there is not much difference between the two. Mr. Ewald was the manager and president of both concerns.

Q. What have been your duties with the Special Equipment Company during those years? A. Pardon?

Q. I say: What have been your duties with the Special Equipment Company during those years? A.

Well, since 1931, I have been in charge of the construction or manufacturing, maintenance and servicing of the pear peeling apparatus.

Q. Has that machine gone into use? A. Yes, sir, very definitely so.

In 1931, we had 16 machines in the Olympia Canning Company's plant. In 1932, we added 20 more, which were placed in Woodburn, Oregon; then, in the third year, we added canneries as customers that used the machine, and then on we grew from the 16 machines the first year until this past year there were 359 machines in use in 30 canneries; and these canneries were located all the way from the Canadian line to Salinas, California, which is about 150 miles South of San Francisco.

Q. What position does the packing of pears have in relation to the fruit processing art in the United States? A. The pears are second; they have the second largest pack—that is, the pear pack is the second in the United States.

Q. What was the pack for 1941? A. For 1941 the pack for the United States was 7,760,000 cases; for the Pacific Coast, it was 6,060,000 cases, and out of those 6,060,000 cases, 4,000,000 cases were packed over the Ewald pear machine.

Q. Was this machine, shown in Plaintiff's Exhibits 34 2 to 5, used for the processing of pears in the United States,—and during what years? A. Yes, sir, they were. They were used from 1931 until 1935.

Q. Have they been used since 1935? A. Yes, sir. While there have been mechanical improvements made on the machine to simplify motions and things like that, the fundamental principles of the machine today are exactly the same as they were when we first started out with the machine as disclosed on these drawings.

Q. What influence, if any, did this machine have upon the packing of pears in the United States? A. I think it has just about doubled the pack, because in 1931, as I recall it, the pack was around 3,000,000 cases, and being over 6,000,000 cases, why, it has had quite an influence on the pear pack.

Q. How did it affect the methods of preparing the pears for canning? A. Well, it just revolutionized the pear packing industry.

Q. Prior to the advent of this machine, how were the pears prepared for canning? A. It was all done by hand.

Q. Will you describe briefly that hand method? 35 A. Well, I can cite the Olympia Canning Company's installation that they had there.

They had six tables with conveyor belts running on each table, and the ladies would peel the pears by hand, do nothing but peel. Then, the pears were placed on the conveyor belts which conveyed the pears over a grading system which consisted of two diverging belts, running edgewise. The smallest pears were dropped out first, and then on down the line until the largest pears fell out. Running at right angles to this grader were tables on which women were grouped. The first group of women cut the stem end of the pear off and split it. The second group of women cored and peeled, and the next group of women put the pears in cans; and with this method, after the pear was peeled, it took the exact shape, nearly, that the pear ori-

ginally had, so that when a woman in canning would have, oh, from six to eight cans in front of her, she would have to deposit the pears in there according to shape, length, and so forth, so that when the can was opened up, you would get more or less of a uniform package.

Q. What would you say are the advantages of the machine, of the present application, over the hand method of processing pears? A. Well, there are several advantages. I think the most important advantage

36 would be the fact that the costs to consumer have been cut just about in half. Prior to the pear machine, pears cost in the neighborhood of 30 cents a can, and today you can buy them as low as 15 cents. Then, too, the labor problem, especially the way it is today,—it takes just about half the number of people to put up the same size pack that it used to, by the hand method, and the floor space required when using the machine is cut very materially.

To explain that a little more fully, and again using the Olympia Canning Company as an example, prior to the machine, on the floor space available for pear packing, for the pear pack, they packed 140,000 cases a season, which was considered a good sized pack in those days; where, today, during 1941,—this year's figures are not available as yet for the size of the pack—they packed 480,000 cases on the same floor space available.

Then, too, the pears are very much palatable when run over the machines than they were by using the hand method. And another big advantage that we have found is that they are so much more salable. When hand peeled, there are always ridges left from the peeling knife because a woman peels from end to end on a pear and goes around it, while with this machine the knife makes one sweeping cut around the outside, which more or less makes a very nice appearing half fruit out of it. Then, the equipment necessary for packing pears with a machine is considerably reduced because of the fact that so many more pears can be run over

37 similar equipment. Then, too, the speed of the operation with the machine enters into the picture also. As a comparative figure, the machine runs at 56 pears a minute, which would be 112 halves, while on a comparative basis one woman would only be able to do half of that, or 28 whole pears a minute.

Q. The controversy which is before this court is concerned with the proposition as to whether or not the machine of the application must necessarily contain some splitting mechanism. As the result of your practical experience in operating and maintaining of the machine, what have you to say about that? A. Well, it is very definitely possible to run the machine without having the splitting mechanism in the machine. Pears could either be—could be pre-split before the machine, and either fed with the two halves face to face going into the machine, or the half pears could be fed individually into the machine.

Q. Using a separate machine to pre-split the pears before they are fed into the present machine, or straight pre-splitting them by hand, how many different ways of operating upon pre-split pears could be used in connection with the present machine? A. Well, if you pre-split the pears they could either be fed by hand into the machine, or a machine could be built separate from this machine shown here entirely, which would split the pear and then  
38 automatically feed the half pears held together face to face and fed into the first turret of the Ewald Pear Machine.

Q. Are these purely theories on your part, or have you actually used the machines in these ways? A. No; we have actually used the machine that way, and I have some films with me to show that they were actually run that way and, also, some wooden models to demonstrate the possibility of it.

Q. Can you find that film? A. Yes, sir.

Mr. Prangley: I will ask the Clerk to mark that as Plaintiff's Exhibit 6.

By Mr. Prangley:

Q. Mr. Skog, will you show the Court those films? A. Yes, sir.

(At this point, the witness left the witness chair, set up a portable moving picture projector machine on one end of the counsel table and a small portable screen on the other end of the counsel table, darkened the room and projected said film on the screen; during such exhibition of the film, the witness described the action occurring on the screen as follows:)

The Witness: These pictures deal first with the machine, as it is in commercial use today, and that is then followed by the demonstration of peeling the pre-split pears, both with the halves held together, face to face, and the  
39 half pears singly.

This shows the girl feeding the pears into the machine, running at 56 pears a minute. This is the close-up of what we call the bobbing, where the stem end of the pear is cut off; and this is the peeling station. You will notice here that there is a peeling blade that swings down through the cup in one sweep, and that knife has a predetermined shape which, after peeling the peel from the fruit, makes a very pleasing looking half pear out of it; and this is the coring station where the pears are cored and stemmed; and also the cores and peelings are taken out.

This is a close-up of the coring mechanism. This shows how the coring blade makes a turn of 180 degrees before the coring paddle makes a turn and forces the half pear out, leaving the coring and the peeling in the cup.

At the right side, you can just see where the scavenger blade comes down to remove the core and peeling.

Now, this shows the half pear, pre-split, going into the machine. You will note, in this case, that both the splitting knife and the wings, the spreader wings, have been removed from the machine entirely and the peeling cup placed

in such a position that the pear will drop just a very short distance from the transfer cup which just opens and drops it directly into the peeling cup, after which the peeling and coring is done exactly as seen in the previous scene.

40 Here, we are pre-splitting the pears, holding the halves together, face to face, and placing them together in the machine, after which the operation is exactly the same as if the pears had been put in whole; and, in this case, the splitting knife has been removed entirely from the machine. This was done on one Sunday—we did not want to publicize the fact too much—so that the operator was not very experienced at feeding the pears to the machine.

By Mr. Prangley:

Q. Are the spreader mechanisms used with the pears before feeding into the machine? A. Yes, sir,—if you will look closely you will see there is no splitting knife in front of the spreader blades (indicating).

(Continuing) Normally, the splitting blade would be right in front of here—you see the spreader blade, but due to the fact that the pears have been pre-split, the line between the two halves is directly in front of the two halves of the pear, so that as it is carried forward each half will pass to either side of the wings, and is deposited in the end cups, the same as though the splitting knife had been in front of the blades.

(At this point, the witness concludes with his motion picture exhibition, and resumed the witness stand, after which the following occurred:)

41 By Mr. Prangley:

Q. I notice that in the films which you have just shown, the holders which grip the fruit in the first turret, corresponding to the green turret a Plaintiff's Exhibit 2, were of a different form.



Will you explain that difference and how it arose? A. Well, that was one of the mechanical changes that was made on the machine, after we used this one (indicating),—after we used this mechanism on the feeding, and I have brought with me some wooden models which were prepared under my direction.

Mr. Prangley: I will ask the Clerk to mark the wooden models as Plaintiff's Exhibits 7 and 8.

(The wooden models referred to were marked by the Clerk as Plaintiff's Exhibits 7 and 8.)

Mr. Prangley: And the wooden pear models as Plaintiff's Exhibits 9 and 10— If I may demonstrate before you put the labels on?

The Clerk: All right.

The Witness: Now, I have had these wooden models made to the exact dimensions of the fruit holders as disclosed in this application, and you will notice that the two halves simulate a pear made out of wood, and we place the two halves in the gripper means so (demonstrating), and  
 42     you can see that they will be held together and stand  
        the shock of the bobbing knife while the end was being cut off.

By Mr. Prangley:

Q. Will you refer to the exhibits numbers, so that the record will show what you are referring to, as you talk?  
 A. That is No. 7.

Q. Yes. A. Exhibit No. 7 is a duplicate in wood of the transfer mechanism as shown on the machine; and to demonstrate of the halves of the pre-split pears could be transferred from the holder means, I take the mechanism so (demonstrating), the transfer is made, and the pear can be passed on to the wings, as was demonstrated in the picture.

Now, to handle a half pear, we place that in the gripper means so (demonstrating). You see, that would be held just the same, and it would also stand the shock of the

bobbing knife; and the transfer mechanism would take it out of that (indicating) and pass it on into the machine, as you saw in the pictures.

(The wooden model of a whole pear was marked as Plaintiff's Exhibit No. 9; and the two halves of a wooden model of a pear was marked as Plaintiff's Exhibit No. 10.)

By Mr. Prangley:

Q. I notice also in the films that you have shown  
43 and the coring mechanism moved up and down, whereas in the application, Plaintiff's Exhibit 1 the coring mechanism swings toward and from the cup. Will you explain that difference? A. Well, that was a case of finding a simpler way of doing this thing, too; and we already had the peeling head on a slide, which reciprocated vertically, and since we already had that, why, it was just a matter of putting the coring paddles with the proper driving mechanism on a frame that raised and lowered, with the peeling head.

Q. By using the pre-split pears in the two manners that you have described and have shown in the films, what changes would be necessary—or were necessary in the machine of the application, Plaintiff's Exhibit 1,—what change would have to be made in that machine? A. The only change that would have to be made would be to remove the splitting knife in the case in feeding the whole pear in split halves, with the halves held face to face, while in the feeding of the half pears singly to the machine, both the splitting knife and the spreader wings would have to be removed and the cup placed in such a position that the pear could drop directly into it.

Q. Would the splitting knife be required in either of the methods of use of the machine? A. No, it would not.  
44 Q. Will you explain more clearly how the spreader blades operate upon pre-split pears? A. Well, the transfer carriage is so designed that the line of cleavage

between the two halves of pears is directly in line with the front edge of the spreader blades so that as the two halves approach the front edge of the spreader wings, one half will go to the one side of the spreader blades and the other half to the opposite side, exactly the same way as though the whole pear had been fed in and the splitter knife split the pears before they went on the wings.

Q. Did you remove the films from the projector? A. Yes, sir.

Mr. Prangley: I will ask the Clerk to mark those as Plaintiff's Exhibit 6, now.

(The films referred to were marked as Plaintiff's Exhibit No. 6.)

Mr. Prangley: I would now like to offer in evidence Plaintiff's Exhibits 1 to 10, inclusive.

The Court: In the absence of objection, they will be received in evidence.

(Plaintiff's Exhibits 1 to 10, inclusive, were received in evidence.)

The Court: That finishes the direct examination?

Mr. Prangley: Yes, sir.

#### 45 Cross-Examination

By Mr. Reynolds:

Q. When did you first try using this machine with pre-split prears? A. The original machine that Mr. Ewald started to devise was started that way. The original idea was to split and bob the pears before they went into the machine, and then to core and stem by hand afterwards.

Q. You mean by that, that splitting and bobbing was to be done by hand; is that right? A. Yes, sir.

Q. When did you first pre-split pears before putting them in a bobbing machine? A. That was tried out, oh, about a year ago.

Q. And who suggested doing it? A. It was done at our attorney's suggestion.

Q. Now, how were the pears actually split, when they did that? A. Pardon me?

Q. How were the pears split when you ran these tests? A. They were split by hand.

Q. Is it ever customary to split the pears prior to bobbing them, in commercial use? A. Yes, sir, it is. The Anderson-Barngrover, or Food Machinery Company, have a mechanical pear-peeling machine, and on that machine— Pardon me, what was the question you asked?

Q. The question is: Is it ever commercial practice to split the pears in half longitudinally prior to bobbing them?

A. That is what I thought you asked, but I wanted to be clear as to it.

It does on the Anderson-Barngrover machine. The first operation is to bob the pear. Then, it goes on through the peeling operations, and the splitting operation is the last on that one.

Q. Well, then, they are not split before they are bobbed, are they? A. No; they are bobbed first and then split.

Q. The question is: Are they ever split before they are bobbed, in commercial practice? A. Oh, I am sorry. Then, they are bobbed first, and then split.

Q. That is, so far as you know, there is no commercial machine in which they are split before they are bobbed? A. No, sir.

Q. And it would be rather a difficult thing to do, would it not? A. Why? I do not see that that would be difficult, because you can make a machine do most anything that you want.

Q. Would not the stem interfere with a longitudinal splitting? A. No.

Q. Would you split the stem? A. No.

Q. Then the stem would adhere to one half or the other of the pear? A. Yes, sir.

Q. But you do not know of its being done commercially, although you think it could be done? A. It could be done, yes, sir,—no doubt.

Q. But you do not know of its being done? A. No. There are only two mechanical pear peelers on the market.

Q. So, so far as you know, the idea of splitting them before they were put into a bobbing machine originated with the attorneys for the Plaintiff in this case; is that right?

A. Pardon?

Q. So far as you know, the idea of splitting the pears before they are placed in the bobbing machine originated with the attorneys for the Plaintiff in this case?

Mr. Prangley: Can you make the question clearer? The witness seems to be puzzled as to your meaning.

48 By Mr. Reynolds:

Q. What is it that you do not understand? A. Maybe one thing is that I am excited. This is the first time that I have ever appeared as a witness in my life.

Q. What I am trying to get at is: The first suggestion to you of splitting the pears prior to putting them into a bobbing machine came from the attorneys here? A. Yes, sir,—into the bobbing machine. But nevertheless, we had pre-split pears before the pears went into a pear-peeling machine.

Q. Now, is there any advantage you can think of, of splitting the pears before going into the machine, rather than **after bobbing**? A. No, I really could not say that there would be any advantage, but if conditions were such that we were not allowed to use the splitting knife in the machine, why, we could make a very practical commercial machine by pre-splitting, because the differences that I pointed out and the advantages of the present machine would so far offset the disadvantage of pre-splitting before the machine—well, there just would not be any comparison.

Q. But as compared with the machine as it now stands, pre-splitting would be a disadvantageous method,  
49 would it not? A. Yes, sir, I will have to admit that.

Q. If the pears were put in, halves at a time, the operation would be only half as fast, would it not? A. No, you could speed the machine up to take care of that.

Q. You mean you could run it faster, putting a half pear in a holder, than if you put a whole pear in it? A. Yes, sir.

Q. Why is that? A. Well, the speed of the machine is pretty much limited to the operator at the present. At present, an operator that feeds the machine sorts the pears—Take in the case of the Olympia Canning Company, for instance, the girl sorts the pears for the state of ripeness. If a pear is too green, she throws that in a certain box, and, then, we have what we call “hard ends”, where the blossom end of the pear turns sort of woody. They are kept separate. And, then, we have the pears divided into what we call “longs” and “shorts”, and they are supposed to be pre-graded before they come to the machine, and sometimes we find they are a little mixed, and the operator has to separate those.

Well, that is all left to the operator now, when she is feeding the whole pears.

Now, if we were pre-splitting and feeding the halves alone to the machine, the girl that was splitting by hand  
50 would be doing that, so the girl that was feeding the machine in question would have nothing to do but just put those pears in there as fast as she could; you see?

Q. Then, you would be using two girls to do the work of one? A. That is right.

Q. And only do it at the same speed at which it is done by one girl with the machine as it stands in the application? A. Yes, sir, it amounts to the same thing; but I still think the advantages of the machine are so far ahead that if we were forced to discontinue the use of the splitting knife, that the machine would still justify itself very much.

Q. Now, putting two halves of a pear in at one time, they would have to be very accurately positioned, would they not, in the machine? A. Well, that could be taken care of very easily, if a hand splitter were used. She could split

and place the pears in pockets that passed in front of the operator that fed the machine in this application; or if they were automatically fed from a previous machine, then naturally the halves would be held right together all the time until placed in the first turret holders.

Q. What I had in mind is that the cut, between the halves, would have to be arranged in a particular position,  
51 would it not,—in putting a pear in that machine?

A. Yes, sir, but you noticed in the pictures that once the halves were placed in a gripper means, they went through the bobbing station into the transfer station and into the cups without being displaced at all; and that would be the same thing—And by the way, if a separate machine were built, which would cost very little and would be easy to make or to built, then you would not have to have the two operators; and in using the halves singly, it would not be very difficult to spread those two halves and feed them into two of the first turret holders, and that would eliminate the operators also, so we would get back to the one operator again.

Q. Well, I am speaking now of putting two halves together in one holder. Now, your slot between the halves would have to be positioned very accurately, would it not?

A. Well, you could have the fingers designed in such a way that they would have to be held accurately.

Q. The question is: Would not they have to be put in accurately? A. Oh, yes, they would.

Mr. Reynolds: That is all.

(The witness was excused).

• • • • •



**APPELLANT'S EXHIBIT NO. 1.**

79

In the United States Patent Office

*Specification*

To All Whom It May Concern:

Be it known that I, Mark Ewald, a citizen of the United States and a resident of Olympia, in the County of Thurston, and State of Washington, United States of America, have invented a new and useful improvement in

*Fruit Treating Apparatus*

of which the following is a specification:

This machine has to do with a machine for treating fruit and relates particularly to such a machine adapted to stem, split, peel and core pears.

It is an object of the present invention to provide a machine adapted to receive a pear in its natural growth and to fully prepare it for canning in a manner without mutilation resulting thereto.

Another object of the present invention is the provision of a pear treating device capable of performing definite successive operations upon a fruit to achieve fruit sections of a uniform character for canning.

Another object of the present invention is the provision of mechanical means for increasing the speed at which pears may be prepared for canning.

Another object of the present device is to provide an expedient means for the treatment of pears and which will not become clogged to interfere with its operation.

80 Still another object of the present invention is the provision of a pear treating device which disposes of the fruit separately from the peeling and the core.

These objects and other desirable objects are obtained by the novel arrangement, unique combination, and the improved construction of the parts comprising the invention which is fully set forth in the following description and

the accompanying drawings hereby made a part of this specification and in which:

Figure 1, 2, 3, and 4 are side elevations of the machine taken from the front, right side, back, and left side, respectively;

Figure 5 is a horizontal section of the machine taken at the line 5—5 of Figure 4;

Figure 6 is a fragmentary sectional view of the machine taken on the line 6—6 of figure 5;

Figure 7 is a sectional view of the driving mechanism for the device;

Figure 8 is a fragmentary view of the machine illustrating a clutch mechanism and taken along the line 8—8 of figure 7;

81 Figure 9 is a side view of a cam and cam follower taken along the line 9—9 of figure 3;

Figure 10 is a plan view of a bobbing mechanism taken at the line 10—10 of figure 2;

Figure 11 is a sectional view of the bobbing mechanism illustrated in figure 10;

Figure 12 is a fragmentary sectional view of a feeding mechanism taken at the line 12—12 in figure 13;

Figure 13 is a plan view of a feed turret taken on the line 13—13 of figure 2;

Figure 14 is a perspective view of fingers complementary to a feed cup;

Figure 15 is a sectional view of a fragment of the feed turret illustrated in figures 12 and 13;

Figure 16 is a perspective view of a cam for elevating feed cups, the view being taken on the line 16—16 of figure 15;

Figure 17 is a sectional view of the device illustrating a cam mechanism and taken at the line 17—17 in figure 3;

Figure 18 is a side elevation of parts for the operation of a splitting carriage taken on the line 18—18 of figure 1;

Figure 19 is a fragmentary perspective view of the parts shown in figure 18 and taken at the line 19—19 in figure 20;

Figure 20 is a side elevation of the parts shown in figure 18 as indicated by the line 20—20 in that figure;

Figure 21 is an orthographic projection of the  
82     splitting carriage and taken from above at the line  
       21—21 in figure 4;

Figure 22 is a side view of the splitting carriage taken at the line 22—22 in figure 21;

Figure 23 is a sectional view of the splitting carriage taken along the line 23—23 in figure 22;

Figure 24 is a sectional view of the splitting carriage taken at the line 24—24 in figure 22;

Figure 24a is an end view of a fruit cup in the open position;

Figure 25 is an end view of a closed fruit cup in combination with parts shown in a different operating position than with the cup illustrated in figure 24a;

Figure 26 is a side view of a fruit cup element illustrating the internal wall structure;

Figure 27 is a perspective view of the cup element shown in figure 27 and taken from above;

Figure 28 is a sectional view of the device illustrating the peeling mechanism and taken along the line 28—28 of figure 2;

Figure 29 is an end view of a fruit cup with parts broken away for purposes of illustration;

Figure 30 is an end view of the cup shown in figures 24a, 25 and 29 at a different stage of operation;

Figure 31 is a perspective view of the peeling mechanism taken from above at the line 31—31 in figure 28;

Figure 32 is a sectional view of the peeling mechanism illustrating the contour taken by a peeling blade, the view  
       being taken at the line 32—32 in figure 28;

83     Figure 33 is a sectional view of the peeling mechanism taken at the line 33—33 in figure 2;

Figure 34 is a sectional view of the peeling mechanism taken at the line 34—34 of figure 28;

Figure 35 is a sectional view of the coring mechanism of the machine;

Figure 36 is a longitudinal sectional view of a coring instrumentality;

Figure 37 is a sectional view of the coring device taken at the line 37—37 in figure 3 incident to a different stage of operation than is illustrated in figure 35;

Figure 38 is an enlarged sectional view taken at the line 38—38 in figure 36 and illustrating the manner in which a coring paddle is connected to a spindle therefor;

Figure 39 is a detailed view of the end of a coring instrumentality;

Figure 40 is a sectional view of a coring instrumentality taken at the line 40—40 in figure 36;

Figure 41 is a perspective view of auxiliary parts of the coring mechanism;

Figure 42 is a sectional view of a coring spoon and coring paddle taken on the line 42—42 of figure 37;

Figure 43 is a sectional view of a coring paddle and coring spoon in combination with a fruit cup;

Figure 44 is a sectional view of a coring instrumentality taken on the line 44—44 of figure 37;

Figure 45 is a sectional view of the coring paddle and fruit cup illustrated in figure 43 incident to a different stage of operation;

84 Figure 48 is a sectional view of the coring paddle and fruit cup shown in figures 43 and 45 taken at the line 46—46 in figure 35 at a still different stage of operation;

Figure 46a is a sectional view of a coring spoon and coring paddle taken along the line 46a—46a of figure 37;

Figure 47 is a perspective view of a mechanism for cleaning the fruit cups;

Figure 48 is a sectional view of the mechanism illustrated in figure 47 taken along the line 48—48 of that figure; and

Figure 49 is a side view of the splitting knife.

Like reference characters will be used throughout the following description and in the drawings for designating similar parts of the invention.

In order to make the description more easily understood, it will be divided according to the various distinct parts of the machine. Attention will first be directed to the machine frame.

85

### *The Frame*

The frame for the device is constructed about four upright members 50, 51, 52, and 53, which are shown in figures 1, 2, 3, 4, and 5. Upright members 50, 51, 52, and 53 are disposed at the four corners of a square and are supported in the selected position at their top by a square frame member 54 which has radiating inwardly and upwardly from the four corners thereof brace rods 55 for the support of a bearing 56 which coincides with the vertical center axis of the frame. Near the bottom of the four angle upright members is a square frame piece 57 which is, in the present instance, a single casting. If desired, the frame piece 57 may comprise four bars joined at their ends. Bolts 58 hold the frame member 54 to the upright angle pieces while bolts 59 serve to hold the lower frame piece 57 in the assembled position.

Attached to the back side of the frame piece 57, figure 3, by means of bolts 60 is an upright bracket 61 to which is attached by means of bolts 62 a cross member 63, figure 6. The opposite and front end of the cross member 63 is bolted to the center of a generally triangular frame member 64 by bolts 65. Bearings 66 and 67 are within the cross member 63, the latter named bearing being axially alined with the bearing 56 at the top of the machine.

Two legs 68 of the frame member 64 extend upwardly and forwardly from opposite ends of the bar 69 extending between the frame upright members 50 and 53 where they enjoin with a third leg 70 which extends from the center of the bar 69. A vertical bearing 71 is formed within the frame piece 64 at the point where the members 68 and 70 are confluent. Forwardly of the bearing 71 and at the end of an arm 72 is a vertical bearing 73.

Above the frame members 63 and 64 is a hood 74 which,

in addition to serving as a frame brace member, provides a covering for the parts of the mechanism therebeneath. Four corners of the hood 74 enjoin the four angle upright members 50, 51, 52, and 53, while a portion 75 thereof projects forwardly over the frame piece 64. Bolts 76 provide means for holding the hood 74 in position to the upright frame members. A bearing 77 is provided in the hood 74 coincident with the vertical axis defined by the bearings 67 and 56, see figure 6. A bearing block 78 is attached to the hood 74 in alinement with the bearing 77. In the forwardly projecting portion 75 of the hood 74 is a bearing 79 and a slot 80, the latter extending inwardly of the hood from the most forward edge thereof.

#### *The Driving Mechanism*

In figure 3 there will be noted two bearing blocks 81 and 82 in common support of a drive shaft 83. The shaft 83 extends to the left of the bearing 82, figures 3 and 7, and has upon the extended end thereof a hand wheel 84. To the right of the hand wheel 84 there is keyed to the shaft 83 a slidable flanged collar 85. Between the flanges of the collar is formed a groove 86. Intermediate the collar 85 and the hand wheel 84 is a compression spring 87 which is seated against the hand wheel 84 for constantly urging the collar 85 to the right.

87 To the right of a flange 88 upon the collar 85 is a friction disc 89 for commonly engaging a drive pulley 90 and the flange 88 when the collar 85 is allowed to be forced to the right by the compression spring 87. When not engaged by the friction disc 89 the pulley 90 is free to rotate about the shaft 83.

For throwing the clutch arrangement consisting of the friction disc 89 and the flanged collar 85 into engagement with the pulley 90 for driving the shaft 83 is a rod 91 having a handle member 92 on the upper end thereof (figure 2). A bearing bracket 93 holds the operating rod 91 into position with the upright member 50. At the lower end of the operating rod 91, and which is rotatively held within

an apertured ear 94 projecting from a gear guard 95 is a collar 96 to prevent longitudinal displacement of the operating rod. A lever arm 97 is attached to the lower extremity of the operating rod 91 by means of a bolt 98 (figures 7 and 8) in a non-rotative manner. One end of the lever 97 is pivotally connected to a link 98 while the opposite end of the lever configures a lug 99 for engaging an aperture 100 in the gear guard 95.

Bolted to the face of the gear guard 95 which partially houses the drive pulley 90 is a bracket 101 to which is pivotally keyed by means of a bolt 102 an arm 103. The lower end of the arm 103 is pivotally connected to the extended end of the link 98 while the center portion of such arm is enlarged and configures a ring into which there is inserted a bushing 104 to be held in place by means of set screws 105.

88 Lugs 106 and 107 projecting from the upper and lower parts respectively of the gear guard housing 95 are attached to the upright member 51 by means of bolts 108 and 109 for holding the housing in place.

Commonly connected between the leg of the frame member 57 between the upright members 50 and 51 and the leg 51 is a bearing bracket 110 best shown in figures 5 and 6. Bolts 111 serve for holding the bearing bracket to the upright member 51 while a bolt 112 holds such member to the frame piece 57. Within the upper body of the bracket 110 is a horizontal bearing 110a for supporting an end of the main cam shaft 113. The opposite end of the cam shaft 113 is supported in a bracket 114 similar to the bracket 110 and which is held in position at the opposite side of the machine by bolts 115 and 115a. A bearing 116 within the upper portion of the bracket 114 serves as a journal for an end of the cam shaft 113. Adjacent to the outer side of the frame member 51 and keyed upon the shaft 113 to rotate therewith is a spur gear 118. Meshing with the spur gear 118 as a driving means therefor is a smaller gear 119 which is keyed to the main drive shaft 83.



A face cam plate 120 is keyed to the main cam shaft 113 for driving two cam follower plates 121 and 122. A more detailed description of the cam follower plates 121 and 122 will be given later together with an explanation of the manner of operation of certain parts of the machine which they drive. Displacement of the follower plate 121 along the shaft 113 and away from the cam 120 is prevented by a collar 123. A collar 124 precludes a similar displacement of the follower plate 122 from the opposite face of the cam 120.

A face cam plate 125 is keyed to the shaft 113 adjacent to the bearing bracket 114. Intermediate the bearing bracket 114 and the cam plate 125 is a cam follower 126 for cooperating with the cam plate 125. For preventing longitudinal movement of the cam 125 and the cam follower 126 are collars 127 and 128. A set screw 129 holds the collar 127 in place. Within the right face of the face cam plate 125 is an irregular eccentric groove 130 best shown in figure 9. A roller bearing 131 operates within the groove 130 and is secured to the cam follower plate 126 by means of a pin 132.

Within the cam follower plate 126 is a vertical slot 133 for the reception of the shaft 113 to adapt the plate for reciprocation as it is propelled by the roller 131 within the groove 130.

A beveled gear 134 is secured to the cam shaft 113 by means of a set screw 135. The beveled gear 134 meshes with a second beveled gear 136. Gears 134 and 136 are shown in a different view in figure 6. In the latter named view there will be noted above the pinion 136 a gear 137 which meshes with an idler gear 138 for driving a third gear 139. A shaft 140 journaled within the bearing 66 carries the gears 136 and 137 at its lower end. A stub shaft 141 provides a journal for the idler gear 138, while a shaft 142 commonly journaled in the bearings 67, 78, and 56 carries the gear 139.

Resting upon the top of the bearing 67 is a sleeve 143 which is free to turn independently of the shaft 142



90 and has keyed thereto for common rotation a star cam 144. About the periphery of the cam 144 are alternately arranged arcuate sections 145 and inwardly extending slots 146. At the ends of the slots 146 and the arcuate sections 145 are points 147 and 148.

Above the bearing 66 to rest thereon and keyed to the shaft 140 is a Geneva cam plate 149. The plate 149 is circular and is disposed within a horizontal plane common to that of the body of the star cam 144. A narrow flange 150 circumscribes the lower edge of the main body 151 of the cam to extend therefrom as a section 152. Within the cam section 152 is a slot 153 with its major dimensions arranged radially of the vertical axis within the shaft 140. The slot 153 is for slidably carrying a pin 154 which carries a roller bearing 155 upon its upper end. A plate 156 is free to slide along the lower face of the cam section 152 and has an aperture 157 for receiving the lower end of the stem 154 which is threaded for the reception of a bolt 157a for holding the plate 156 in place. Above the cam section 152 is a sleeve 158 for measurably spacing therefrom the roller bearing 155.

Above the Geneva cam plate 149 is a stationary cam plate 159 which presents a groove 160 in its lower face and which groove is of substantially the same width as is the roller 155 and which is for propelling the roller 155 axially of the Geneva cam 149 as the latter is rotated with the shaft 140. A bearing 161 within the cam plate 159 provides for free rotative movement of the shaft 140 therein while a bar 162 held between the frame members 51 and 52 by means of bolts 163 prevents rotation of the plate 159.

91 In figure 5 it will be noted that the contour taken by the groove 160 for the greatest portion thereof is of a radius generated about the axis within the shaft 140. Between the points 164 and 165, however, the groove 160 is generated about a point more distant therefrom than the shaft 140.

Upon the upper end of the shaft 140 is a sprocket wheel 166 for driving a chain 167. The opposite and forward end

of the chain 167 drives a sprocket 168 which is upon a vertical shaft 169 cojournaled within the bearings 71 and 79. Intermediate the two sprockets 166 and 168 is an idler sprocket 170 to prevent flapping of the chain 167 due to vibration of the machine. The sprocket wheel 170 is supported upon a bracket 171 which is secured to the cross frame member 163 by means of bolts 172.

Figures 5 and 6 taken together illustrate a Geneva cam arrangement for driving a sleeve 173 intermittently about a rod 174 which is held stationarily within the bearing 73 and a bearing 73a, thereabove in a trapezoidal frame piece 73b (see figures 10 and 11). Keyed to the sleeve 173 is a star cam 175 having arcuate sections 176 and grooves 177 arranged alternately about its periphery. There are six slots and six grooves in the present form of the invention but this number is, of course, not inflexible. At the side of each slot 177 are points 178 and 179.

Keyed to the shaft 169 is a Geneva cam plate 180 having a raised portion 181 with an arcuate section 182 of the same radius of the arcuate sections 176 of the star cam 175, and a concave arcuate section 183. The sections 182 and 183 enjoin at the points 184 and 185. Supported at the point of the lower projecting portion 186 of the cam 180 is a roller bearing 187. A stub shaft 188 provides a journal for said roller bearing.

### *The Feed Turret*

The lower end of the sleeve 173 rests rotatively upon the top of the bearing 73. In figures 1 and 2 it will be noted that at the top of the sleeve 173 there is a hub 189 of a feed turret 190. A set screw 191 secures the hub 189 and the sleeve 173 together for common rotation. Radiating from the hub 189 are spokes 192 in support of a peripheral rim 193 (see figure 13). The configuration taken by the rim 193 is hexagonal, there being a bearing 194 at each of the vertexes of the rim. The bearings 194 are rectangular in cross section and are open at the outermost side so that

stems 195 of the same rectangular cross section may be inserted therein in a manner to adapt them for vertical reciprocation. After the stems 195 are inserted into the bearings 194, plates 196 may be placed over the open side of the bearings to be there held by means of bolts 197 (see figure 1).

The lower end of each of the stems 195 is apertured for the reception of a bolt 198 so that straps 199 having journals 200 for roller bearings 201 may be attached thereto. The upper body of the stems 195 configure a feed cup 202 having side pieces 203 and a back piece 204.

Within the sides of the bearings 194 are horizontal bearings 205 extending radially of the turret 190. In a centrally drilled and tapped boss 206 is anchored a stem 93 208 to project slidingly into an aperture 212 formed within the lower body of a stock 210 from which fingers 209 extend upwardly. A second stem 207 is set within an aperture 211 at the upper end of the stock 210 to extend slidingly into the bearing 205. A contraction spring 213a which is attached to each of the pairs of fingers 209 by means of a set screw 213 set within the stock 210 at a threaded recess 214 and having the opposite end anchored at 216 within a side of its respective bearing 194 constantly urges the fingers 209 toward the fruit cup 202. (Figures 12, 14 and 15 illustrate the structure just described)

In figure 13 there will be noted upon the inwardly disposed end of each of the stems 207 a horizontally placed arm 217 which is bifurcated to hold a roller bearing 218 in a manner to rotate about a vertical axis. Immediately above the hub 189 of the turret 190 is a collar 219 having a flange 220 with a threaded aperture 221 and held in a selected fixed radial position relative to the shaft 174 by means of a set screw 222. Above the flange 220 is a cam plate 223 having an arcuate section 224 with terminals 225 and 226, and other cam sections 227 and 228. An aperture 229 in the cam plate 223 coincides with the threaded aperture 221 in the flange 220 so that a bolt 230 may commonly engage the flange 220 and the cam plate 223 for holding the

two members in fixed assembly. Shifting of the position of the cam plate 223 about the shaft 174 is accomplished by loosening the set screw 222 and retightening said set screw after a selected position is attained.

94 Above the cam 223 and fixed to the shaft 174 by means of a set screw 231 is a collar 232 having a pair of apertures 233 for the common reception of a pintle member 234 which carries an arm 235. Projecting downwardly from the arm 235 is a lug 236 to press against the collar 232 and prevent downward displacement of the arm 235 beyond a desired position. Depending from the extended end of the arm 235 is a plate 236 having a horizontally disposed section 237 and an upwardly turned section 238. The arm 235 is of such a length as to place the plate 236 above the path of a fruit 239 as it is carried about the shaft 174 by a fruit cup 202.

In figures 4, 15 and 16 there will be noted at the top of the shaft 169 a curved cam plate 240. The plate 240 is offset from a shank 241 which engages the upper extremity of the shaft 169 to be held in a selected radial position thereto by means of a set screw 242. Within the concave surface of the cam plate 240 there is formed a groove 243 having an entrance 247, an inclined section 244, a flat elevated section 245 and a declined section 246. The groove 243 is of a width to accommodate the roller bearings 201.

Power for driving the feed turret 190 is received from the pulley 90 and the main drive shaft 83 which may be driven from any convenient source of power to rotate in a clockwise direction as viewed from the right side of the machine. When it is desired to connect the shaft 83 to the pulley 90 the operating shaft 91 is given a turn in a clockwise direction with reference from its handle bearing end

to remove the lug 99 from the side of the aperture  
95 100 against which it has been pressed by the effort of the spring 87, and to displace the adjoined ends of the link 98 and the lever 97 downwardly so that the spring 87 may urge the flanged collar 85 to the right, figure 7, to compress the friction disc 89 therebetween and the

adjacent face of the pulley 90. Thereafter the grooved collar 85 is caused to rotate with the pulley 90 while the bushing 104 slides within the groove 86. When the drive shaft 83 is so set in motion the gear 119 turns the gear 118 in a clockwise direction as viewed from the right side of the machine whereby the pinion 136 and the gear 137, as viewed from above, are rotated in a clockwise direction through the agency of the beveled gear 134. The shaft 140 and the sprocket wheel 166 are also rotated in a clockwise direction whereby the sprocket wheel 168 and the shaft 169 are caused to rotate in a like direction.

When the cam 180 and the cam plate 175 are in the position shown in figure 5, the upper body 181 of the cam 180 is within the arcuate section 176 of the cam 175 to prevent the latter named member from rotating. Continued clockwise movement of the cam 180 carries the point 184 to a position on a center line between the shafts 169 and 174. With the upper body 181 stationed in this position said body will no longer obstruct turning of the cam 175 for the cam point 178 which is then opposite to a central position within the arcuate face 183 may then be moved toward that face. Simultaneously with the positioning of the point 184 upon the center line between the shafts 169 and 174 the roller bearing 187 makes entrance into the groove at position "X" which registers with the moving path thereof and to press along the side of the groove to rotate the cam 175 in a counter-clockwise direction. When the groove at "X" is so engaged it is moved to position "Y". Incident to the slot 177 arriving at position "Y" the roller bearing 187 makes an exit therefrom concurrently with the entrance of the point 185 into the succeeding arcuate section 176 at the point 178. Thus it has been shown that the cam plate 175 is rotated through one-sixth of a revolution each time that the cam 180 makes a complete revolution.

Movement of the cam 175 is had only while the roller bearing 187 is within a groove 177, the cam 175 being held stationary while the raised portion 181 is within an arcuate

section 176. It is evident that the sleeve 173 and the feed turret 190 which are driven by the cam 173 will be caused to rotate intermittently, the stationary period of the turret being for a greater period of time than the rotary period.

Stations designated by the letters A, B, C, D, E, and F will be noted in figure 13. The arcuate section 234 of the cam 223 is of such an extent and is in such a radial position relative to the shaft 174 that the fruit cups which are at the stations D, E, F, and A, will have their respective roller bearings 218 in contact with such arcuate section so that the stems 207 will be displaced outwardly of the feed turret against the urge of the contraction springs 213 and so that the fingers 209 will be displaced from the cup side pieces 203. While the fingers 209 are so displaced from the fruit cups a fruit may lie loosely within the fruit cups.

97 Therefore, at the stations E, F, and A, a fruit may be easily placed within the fruit cups with the stem bearing end extending outwardly from the turret.

The Geneva cam movement for the turret is designed so that each movement given to the turret will be one-sixth of a revolution to remove the feed cups from one station to the next where it will be permitted to remain until a following movement is imparted to the feed turret.

The fruit 239 which has been placed within the fruit cup at station A when transferred from station A to station B by a movement of the fruit turret is pressed by the fingers 209 because of the urge of the spring 213 when the roller bearing 218 passes along the camming surface 227 to permit the fingers to be displaced inwardly of the feed turret. Incident to the next intermittent movement of the feed turret and the transferring of the fruit from station B to station C, the fingers are allowed to remain in their inwardly displaced position against the fruit and the fruit is carried against the upwardly displaced portion 238 of the plate 236 to displace said plate upwardly as it slides upon the fruit. When the fruit has reached station C it will be beneath the flat section 237 of the plate 236. It is at station C that the stem bearing end is bobbed from the fruit by means of a

blade 250 which is a part of a bobbing mechanism to be described in detail later. Associated with the blade 250 is a holder member 251 for engaging the fruit incident to the bobbing operation to assist in holding the fruit within the feed cup and thereby preventing it from being displaced from the cup when the blade 250 is passed there-  
 98 through. It is the function of the weight 236 to assist the fingers 209 and the holding member 251 to retain the fruit stationarily within the cup during the bobbing operation. Because of the fact that the fruit is to be engaged by other apparatus at the following station that it is important that the fruit be not skewed from a selected seated position within the feed cup by the bobbing mechanism.

Concurrently with the advancement of the feed cup 202 from station C to station D subsequent to the bobbing operation, the fruit is passed from beneath the weight 236 and the roller bearing 218 is passed along the camming surface 228 to displace the fingers 209 away from the fruit cup so that the fruit will be lying freely within the cup when station D is reached. While the fruit is lying freely within the cup at station D, it is possible for other apparatus, later to be explained, for abducting the fruit inwardly of the machine, to easily engage it.

After the fruit has been carried from the fruit cup at station D, the next intermittent movement of the turret carries it to station E where a different fruit may be placed therein and the cycle repeated.

The cam 240 which is mounted upon the shaft 169 is rotated uniformly in a clockwise direction as viewed from above. The radial position of the cam 240 with reference to the shaft 169 is such that the entrance 247 to the groove 243 will be presented to a roller 201 when the fruit cup with which it is associated is advanced to station "D". While the roller 201 is held stationary at station D by the Geneva  
 99 cam mechanism hereinabove described, the cam 240 continues to rotate and elevates the fruit cup while the roller 201 is traversed by the camming sur-



face 244. The fruit cup is held in the elevated position for a short period of time while the flat camming surface 245 is passed beneath the roller and thereafter the feed cup and roller 201 are depressed while the camming surface 246 traverses the roller. It is while the feed cup is held in the elevated position by the flat camming surface 245 that the splitting carriage, later to be described, engages the fruit for abducting it from the feed cup.

### *The Bobbing Device*

Depending from the upper part of the angle frame member 50 is a bracket 260 which is secured to the frame member by bolt 261 (figures 10 and 11). The extended end of the bracket 260 is apertured for the support of one end of a slider rod 262 which is tightly held within the end of the bracket by means of a set screw 263. Fixedly attached to the shaft 174 is a collar 264 with a socket 265 for supporting the opposite end of the rod 262.

The front of the machine is that side at which the feed turret is supported and the directions right and left hereinafter will be taken with reference from the front of the machine. Direction of rotation will be taken with reference from above the machine unless otherwise noted.

Reciprocally mounted upon the rod 262 is a sleeve 266 having a flange 267. There is within the bore of the sleeve 266 a groove (not shown) for receiving the spline 268 which extends along the right top portion of the rod 262. Rotation of the sleeve 266 about the rod 262 is thus precluded. A section 269 of the flange 267 projects backwardly where it is apertured at 270 for the reception of an end of a rod 271. The opposite end of the rod 271 is tightly held within an aperture within the bracket 260 by means of a set screw 272. An expansion spring 273 is upon the rod 271 between the projected portion 269 of the flange 267 and the bracket 260. When the sleeve 266 is retracted to the right along the rod 262 against the urge of the spring 273, the left end of the rod 271 projects further through the aperture 270.



Rotatively placed upon the sleeve 266 is a fork-like member 274 having a shank 275 and bifurcated parts 276. There is a coiled spring 277 which has an end anchored to the shank 275 by means of a set screw 278 and the other end connected to a collar 279 by means of a second screw 280. A torsional force is exerted upon the member 274 by the spring 277 tending to rotate it clockwise about the sleeve 266 as viewed from the right end of the sleeve. Longitudinal movement of the member 274 is prevented by the coaction of the flange 267 and the collar 279, the latter engaging the sleeve 266 by means of a set screw 261.

Depending downwardly from the boss 269 is a strap bracket 282 (figures 1 and 11) which carries at its lower end an upturned section 251 hereinabove mentioned in connection with the feed turret and containing a notch 284. The plane of the upturned section 251 is tangential to the axis within the rod 174. For spacing a pinion 285 from the flange 267 is a collar 286 which prevents a movement of the pinion 285 to the right along the rod 262. Upon the other side of the pinion 285 is a collar 287 for preventing movement of the pinion 285 to the left. Projecting from the pinion 285 is a lug 288 for slidably fitting into the notch between the two fork members 276.

Supported within a vertical bearing 289 within the frame member 73b is a short shaft 290. A bolt 291 in the lower end of the shaft 290 and a washer 292 thereabout supports a segmental gear 293 upon the shaft 290 in a rotative manner. The teeth of the segmental gear 293 mesh with the teeth in the gear 285 for turning the latter named gear. Above the gear 293 and keyed to the shaft 290 is the shank 294 of a cam plate 295. A down turned flange 296 from the shank of the cam 295 circumscribes an upturned collar 297 of the segmental gear 293 excepting for an opening having edges 298 and 299 for the reception of a lug 300 projecting from said upturned collar. Carried in the upper side of the flange 267 is a roller bearing 305 upon a bolt 306. The roller 305 is for coacting with the camming surfaces 307, 308, and 309, of the plate cam 295.

Depending from the lower fork member 276 is a lug 301 to which the blade 250, heretofore mentioned in connection with the feed turret and having a sharpened edge 303, is attached by means of rivets 304. The blade 250 is for rotating with the member 274 and to pass within a plane very close to the upturned section 251 in parallelism thereto. The plane traversed by the blade 302 is between the upturned section 251 and the downwardly extending  
102 stem of the strap bracket 282.

Above the bearing 289 there is keyed to the shaft 290 a short arm 310. For connecting the extended end of the arm 310 to an ear 311 upon a lever 312 is a link 313. A key 314 serves for non-rotatively attaching the lever 312 to a vertical shaft 315 disposed within the angle of the upright frame member 50. Support for the vertical shaft 315 is provided within a bearing block 316, and in a bearing 317 formed within the frame member 64 (see figure 5).

Attention will next be directed to the cam follower 121 shown in figures 2, 3, and 17, and an arm 318 projecting forwardly therefrom. An aperture 319, oblong in shape and with its greater dimension in a horizontal plane, is within the cam follower 121. This aperture is of a width to receive the main cam shaft 113 and of a length to accommodate the horizontal reciprocation imparted to the cam follower 121 by a roller bearing 320 which is carried upon the face of the cam follower adjacent to the cam 120 upon a post 321. The roller bearing 320 rides within a groove 322 within the right face of the plate cam 120, figure 3, the sides of the groove 322 imparting reciprocal movement to the roller and the cam follower 121.

In the opposite face of the cam plate 120 from the face bearing the groove 322 is a groove 323 congruent to and axially aligned with the groove 322. More will later be said of the groove 323 and a roller bearing 324 which rides therein for reciprocally moving a cam follower 325 in a vertical plane and in connection with the peeling device.

Projecting downwardly from the right side of the  
103 cross brace member is a guide piece 326 with a groove

327 therein for holding the arm 318 of the follower plate 121 in lateral alinement. An apertured ear 328 supports an end of a connecting link 329 by means of a bolt 330. The opposite end of the link 329 is connected to the extended end of an arm 331 by means of a bolt 332. Connection is had with the pivotal end of the arm 331 and the shaft 315 at a point below the bearing 317.

After the machine is set in motion, the main cam shaft 113 which will be rotated in a clockwise direction, with reference from the right side of the machine, will first move the roller bearing 320 and the cam follower 121 forwardly where it will be maintained for a period of time and then displace the roller and the cam follower rearwardly to complete the cycle. When the cam follower 121 is moved forwardly, the link 329 and the arm 331 cause the shaft 315 to turn in a counter-clockwise direction and to similarly turn the lever 312. This counter-clockwise movement of the lever arm 312 is enacted while there is a fruit at station C within the feed turret as illustrated in figure 13. When the cam plate 295 is in the position shown in figure 10, the roller bearing 305 is opposite the camming surface 307 as it is urged by the spring 273. While the device is in this position the upturned section 251 carrying the notch 285 will be in position against the fruit 239. Also the edge 298 of the notch within the flange 296 will be against the lug 300 projecting from the collar 297 of the segmental gear 293. A further counter-clockwise movement of the shaft 315 when the parts are arranged as described, will cause the notch side 298 to press against the lug 300 and to rotate

104 the segmental gear 293 and the pinion 285 to cause the member 274 and the blade 250 which is attached thereto to rotate, the member 274 being caused to rotate in a counter-clockwise direction as viewed from the right end of the rod 262 to carry said blade through the stem bearing end of the fruit. The notch 284 within the upturned section 251 is of such a size that it will slide axially over the end of the pear only a desired amount and upon the striking of the sides thereof with the fruit will stop the leftward

movement of the sleeve 266 and its appendages rather than the contact of the roller bearing 305 with the camming surface 307. It is only in such a case where an extra small fruit might be placed within a feed cup that the movement of the bobbing device to the left would be stopped by the roller bearing 305 striking the camming surface 307.

As soon as the blade 250 has been moved downwardly to sever the stem bearing end from the fruit, the cam follower 121 will have reached the foremost of its reciprocal limits where it will be maintained until the roller 320 is traversed by the section of greatest radius of the cam groove 322 at which time it will be displaced rearwardly. Rearward displacement of the cam follower 121 causes the lever 312 to rotate in a clockwise direction to cause the cam plate 295 to rotate in a counter-clockwise direction. While the camming surface 307 is being thus carried past the roller 305 the notch side 298 is being retracted and the lug 300 is being retracted along with the notch side 298 by the urge of the torsional spring 277 which rotates the pinion 285 in 105 a clockwise direction with reference from the right side of the device. By the time the roller 305 is opposite to a position between the camming surfaces 307 and 308 as illustrated in figure 10, the blade 250 which has been rotated clockwise along with the pinion 285 is removed from the engagement with the fruit. Thereafter incident to further clockwise movement of the lever 312 the camming plate 295 is turned further counter-clockwise whereby the sleeve 266 and its appendages are propelled to the right against the urge of the spring 273 by the camming surface 308 which bears along the roller 305. After the camming surface 306 has traversed the roller 305 and the roller rests upon the camming surface 309, the bobbing device is entirely displaced from the fruit so that no interference will be had with the intermittent movement of the feed turret which now takes place.

After a new fruit has been delivered to station C, the shaft 315 is again given a counter-clockwise movement to rotate the cam 295 clockwise to displace the camming sur-

faces 308 and 309 from the roller 305 to permit the bobbing device depending from the sleeve 266 to be moved to the left under the impetus of the spring 273 to engage the fruit with the notch 284. While the camming surfaces 308 and 309 are being passed by the roller 305 the notch side 299 is being removed from the lug 300 and no turning of the gear 293 occurs. Thus the blade 250 is not rotated from its normal horizontal position until after the notch 284 is in engagement with the fruit and at which time the notch edge 298 comes in contact with the lug 300 for rotating the blade in the manner heretofore described.

106 It is the purpose of the tortional spring 277 to move the blade 250 laterally from the severed face of the stemmed fruit incident to the cutting of the stem therefrom and before the bobbing mechanism is moved axially of the fruit so that the blade will be slid therefrom and there will be no tendency to drag the fruit from the feed cup because of the vacuum between the flat surfaces of the blade and fruit. The sides of the notch 284 which engage the fruit while the end is being snipped therefrom materially assists in retaining the fruit in a fixed position in the feed cup concurrently with the stemming operation.

### *The Splitting Mechanism*

Above a hub 350 of a fruit turret, later to be described, there is shown a sleeve 351 upon the central vertical shaft 142 (see figure 18). At the upper end of the sleeve 351 and integral thereto is a boss 352 having a bearing 353 therein (figures 19 and 20), for the support of a rod 354. A recess (not shown) in the opposite side of the boss 352 serves as a bearing in which an end of a rod 355 is rotatively supported. Rods 354 and 355 project forwardly to be supported in the front side of the frame member 73b, in the manner shown in figure 21.

A vertical groove 356 within the front face of the block 352 serves as a channel in which a rod 357 may be guided for vertical reciprocation. Above and below the block 352

are brackets 358 which are held in place to the block by bolts 359. A groove 360 in each of the brackets 358 coacts with the groove 356 in the block or boss 352 to form a bearing for the reciprocal rod 357.

107 Bolted to the left side of the block 352 by means of bolts 361 is a plate 362 having a section 363 projecting to the right against a face 364 provided in the block 352. A notch 365 within the body of the block 352 coacts with the notch formed between the projection 363 and the main body of the plate 362 to form a bearing 366 in which a rod 367 may be confined for vertical reciprocation.

Immediately above the sleeve 351 is a circular cam 368 having a groove 369 with an inclined camming section 370, an elevated section 371, and a declining camming section 372, the latter being shown in figure 2. Between the two sections 370 and 372 at their lower ends is a camming section 372a. A set screw 373 secures the cam 368 to the shaft 142 for common rotation of the two members.

Above the cam 368 is a cam somewhat similar which is designated by the number 374. A groove 375 circumscribes the cam 374. The lower side of the groove 375 embodies a camming surface 376 of a low elevation, an inclined surface 377 leading from the section 376 to a section 378 of a higher elevation and a section 379, figure 2, leading from the section 378 to the section 376. The cam 374 is also caused to rotate in a clockwise direction with the shaft 142 because of a set screw 380.

A stub shaft 381 projecting from the upper extremity of the rod 357 supports a roller bearing 382 within the groove 369 so that the cam 368 may reciprocate the roller 382 and the rod 357 vertically when the shaft 142 is rotated. Projecting forwardly from the reciprocal stem 357 is a pin 383 for rotatively carrying a rectangular block 384. Pin 108 383 projects outwardly of the groove 356 within the block 352 in a manner to be free for reciprocation between the limits established at the upper and lower faces of said block where the brackets 358 are anchored.



Connected to the rod 355 by means of a key 385 is a lever 386 (figures 19 and 20). One end of the lever 386 contains a clot 387 for carrying the block 384 in a manner that the block may slide back and forth therein. The opposite end of the lever 386 has secured thereto by a bolt 388 an end of a horizontal roller bar 389. Upon the opposite end of the rod 355 is connected an arm 390 to the extended end of which is held the opposite end of the roller or slider bar 389 by means of a bolt 391 (see figure 21).

Slidably mounted upon the two rods 354 and 355 is a splitting carriage 392. Figures 20, 21, 22, 23, and 24 should be referred to conjointly in the description immediately following of the parts comprising the splitting carriage 392. Slidably mounted in opposed relationship on the two rods 354 and 355 are sleeves 393 and 394. Carriage end pieces 395 and 396 are suitably apertured to be telescoped onto opposite ends of the sleeves 393 and 394 to hold the parts in a fixed assembly which is free to slide longitudinally of the rods 354 and 355.

Upon the sleeve 394 and intermediate the end pieces 395 and 396 are segmental gears 397 having integral collars 398 which entirely fill the space between the two end pieces. Depending downwardly from the two collars 398 are clamp arms 399. The end of the rearmost clamping arm 399 terminates in a forked member 400 while the foremost arm 109 terminates in a scoop 401. The the left side of the collars 398 are attached brackets 402 by means of bolts 403. In the upper parts of the brackets 402 are apertures 404 for loosely containing ends of short rods 405. Commonly carried upon the opposite ends of the rods 405 is a shoe 406 having a groove 407 which fits about the slider bar 398 in a manner adapting said shoe to slide along the bar. Springs 408 press against the brackets 402 and the back of the shoe 406 to hold the latter named member in place against the slider bar. In the upper sides of the collars 398 are apertured bosses 409 into which bolts 410 are anchored for holding roller bearings 411 which are adapted

for rolling along the side of the slider bar 389 opposite to the shoe 406.

About the sleeve 393 for meshing with the gears 397 are gears 412 having collars 413 similar to the collars 398. Depending from the backmost collar 413 is a clamp member 414 having a forked end 415 opposite to and complementary to the forked end 400 of the clamp member 399. From the collar 413 of the foremost gear 412 there depends a clamp arm 414 having a scooplike end 417 opposite to and for co-acting with the scooplike end 417 opposite to and for co-act-clamp arms 399 and 414 cooperate in a manner for lifting a fruit from a feed cup at station D in a manner presently to be described.

Near the lower end of the sleeve 351 is a platelike section 418 having a section 419 projecting forwardly from a vertical center central portion. The section 419 is not as high as the plate 418 nor is it as wide so that when a bearing block 420 is carried against the face 421 of the forwardly projecting section 419 to be there held by the bolt 422, an entrenchment 423 will be formed between the plate 418 and the block 420 and above the projecting section 419. Since the width of the block 420 is co-extensive with the width of the plate 418, there will be vertical grooves 424 and 425 at the two lateral sides of the forwardly projecting sections 419. A pillow block 426 is held to the top of the bearing block 420 by means of bolts 427 to form bearings 428 into which stems 429 may be held for rotation. Upon the back ends of the stems 429 are pinions 430 for operating within the entrenchment 423.

Wings 431 are turned at right angles to the stems 429 for the support of leaflike members 432. Screws 433 provide attaching means between the leaf members 432 and the wings 431. Four triangular facets in the opposite faces of the leaf-like members 432 terminate in a point 434 which is raised slightly from the body of the leaves. Set within each leaf member in a horizontal plane forwardly of the point 434 is a fin member 435. A blade 436 having a verti-



cal sharpened edge 473 projects forwardly from the left member 432, there being a notch 438 where the blade 436 joins said left member so that the forward edge of the right member 432 may set therein in a manner to be flush with the right face of the blade. Thus when the two leaf members 432 are together as shown in figure 19, a cuneiform configuration is established between the edge 437 of the blade and the two points 434 upon the leaf members 432.

At the top of the reciprocal bar 367 is a roller 439 which rides within the groove 375 of the circular cam 374. Attached to the lower end of the rod 367 by means of bolts 440 is a rack 441 which meshes with the pinion 430 which is at the right (figure 20). A block 442 measurably spaces a second rack 443 from the rack 441 and a bolt 444 holds the three members in assembly. The gear 430 to the right is rotated by the rack 443 in a direction depending upon whether the rod 367 is being raised or lowered.

In figure 21 there will be noted an adjustable link 445 as a means for operatively connecting the end of the lever 312 to the splitting carriage 392 at the end piece 296. When the lever arm 312 is oscillated the splitting carriage 392 is moved forwardly and backwardly along the rods 354 and 355 in a selected sequence with the operation of the leaf members 432 and of the feed turret 90.

When a feed cup is moved to station D to hold a fruit loosely therein, the lever 312 is given a counter-clockwise movement by the shaft 315 to shift the splitting carriage 392 forwardly. While the splitting carriage 392 is being moved forwardly the cam 368 is rotated in such a position as to hold the roller bearing 382 at the lowermost of its reciprocal positions. When the roller bearing 382 and the rod 357 are forced downwardly the block 384 which pivots about the post 383 slides within the groove 387 pursuant to rotating the lever arm 386 in a clockwise direction with reference from the front of the machine. Incidentally the rod 355 rotates along with the lever 386 to rotate the lever

390 in the same direction. It is in this manner that the slider bar 389 is moved clockwise about the axis within the rod 355 to press against the rollers 411 to pivot 112 the collars 398, the gears 397 and the gears 412 which mesh with the first named gears to spread the clamp members 399 and 414. With the clamping members so held apart, there is no interference with their forward movement as they are slid into a position about the feed cup at station D. After the clamping members 414 and 399 are hovered about the feed cup the cam 368 continues to rotate in a clockwise direction as viewed from above to elevate the roller 832 along the camming surface 372 whereby the lever 386, the rod 355 and the lever 390 are rotated in a counter-clockwise direction to close the clamping members about the fruit. The forklike jaws 400 and 415 clamp the fruit slightly to the rear of the cup members 203 while the scooplike jaws 401 and 417 close about the heel of the fruit which is between the side cup members 203 and the cup member 204 (see figure 4). After the fruit has been so engaged by the clamping members of the splitting carriage, the roller 201 of the feed cup is lowered by the cam 240 to leave the fruit suspended only by the fruit clamps of the fruit carriage. Thereafter and while the bar 389 is maintained in the counter-clockwise direction to hold the clamping members in contact with the fruit, a clockwise movement is imparted to the lever arm 312 by the driving mechanism heretofore described in connection with the bobbing device and to propel the splitting carriage 392 backwardly into the machine.

While the arms 386 and 390 and the bar 389 are rotated in a counter-clockwise direction to impinge the clamping members against the fruit, the shoe 406 slides along the bar 389 concurrently with the moving of the splitting carriage.

113     Springs 408 provide a flexible means for engaging the fruit clamps with the fruit. When the fruit clamp members are brought in contact with a fruit to be

carried thereby and by displacement of the slider bar 389 in a counter-clockwise direction about the rod 355, such contact is had by pressing the spring 408 against the brackets 402 about the apertures 404 to pivot the collars 398 and 413. After the clamping members have been stopped by the fruit there may be a further displacement of the slider bar 389 by further compressing the springs concurrently to further projecting the rods 405 through the apertures 404. Greater compression of the springs 408 provides for a tighter gripping of the fruit but does not force the clamping members into the fruit.

When the fruit which is being carried inwardly of the machine reaches the edge 437 of the blade 436 which coincides with the central axis of the fruit, the two leaf members 432 are together as shown in figure 18. As the carriage 392 continues to move inwardly of the machine the scooplike jaws 401 and 417 at the following end of the fruit prevent it from slipping from the clamping members as it is forced past the blade. Thus the fruit is halved centrally and longitudinally with a half on either side of the leaf-like members 432. The fins 435 prevent the fruit from sliding downwardly when subsequently the clamping members are spread by the lowering of the roller 382 along the camming surface 370.

Concurrently with or shortly after the spreading of the clamping members, the rod 367 is lowered by the camming surface 377 passing beneath the roller 439. Lowering of the rod 367 forces the racks 441 and 443 downwardly to rotate the pinions 430 in opposite directions and to thereby spread the leaf-like members 432. The outer faces of the leaf-like members 432 are designed with the points 434 so that the fruit cannot flatly engage the members to create a vacuum between the fruit and members, and so that the fruit will easily fall from the members when they are spread to be disposed in a common horizontal plane. When so spread the leaf-like members 432 are at such a space interval that each of them

will be above one of a pair of fruit cups 460 which are stationed between the upright members 50 and 53. A fruit turret, next to be described, serves as a base for four pairs of fruit cups. The fruit sections upon the leaf-like members are thus deposited in the fruit cups 460.

After the splitting carriage has carried a fruit past the splitting knife and has released the fruit, it is then carried forwardly by the lever 312 to engage a succeeding fruit which has been carried to the station D of the feed turret in the same manner as hereinabove described.

### *The Fruit Turret*

In figure 2 there will be noted at the top of a sleeve 143 a flanged collar 471 to which the base 350 of a feed turret 472 is attached by means of bolts 473. Radiating from the base or hub 350 of the turret are spokes 474 terminating in a rim 475. The spokes 474 radiate from the hub at angles of ninety degrees, there being one of a pair of lugs 115 476 on the rim 475 at either side of the point where a spoke joins the rim. To each lug 476 there is attached a fruit cup 460 so that there are at equal angles about the rim 475 of the turret 472 four pairs of said fruit cups.

It is at the lower end of the sleeve 143 where the cam 144 is attached that motive power for the turret 472 is obtained. In figures 5 and 6 it will be noted that the upper body 151 of the cam 149 has an arcuate section 477 between points 478 and 479 which is of a radius equal to the radius of the concave arcuate sections 145 of the cam 144. The remainder of the periphery of the raised section 151 configures a concave arcuate section 480. As the cam 149 is rotated in a clockwise direction (figure 5) the arcuate section 477 passes within the section 145 of the cam 144 adjacent thereto. The roller bearing 155 is moved therewith and finally is carried into the slot 146 which is at station R. Continued movement of the cam 149 then carries the roller 155 against the side of the slot 146 to rotate the cam 144 in a counter-clockwise direction. At the time the roller 155

enters the slot 146 at R, the point 478 of the upper body 151 will coincide with the center line between shafts 140 and 142 so that said upper body will be removed from the path of the cam 144 and so that the latter named member will be free to rotate in the counter-clockwise direction.

After the roller bearing 155 has entered the slot 146, the groove 160 which changes its direction at point 164, displaced the roller 155, the stem 154 and the plate 156 toward the shaft 140 until the center line between the two shafts 140 and 142 has been reached, when the roller bearing 155 is again displaced away from the shaft 140 until it emerges from the groove 146 at station T. Just as the roller bearing 155 is carried from the slot 146 at station T, the point 479 of the upper body 151 is carried to a position upon the center line between the shafts 140 and 142 so that the arcuate section 477 of the upper body is against a section 145 of the cam 144 to prevent further turning of the cam.

It is in this manner that an intermittent counter-clockwise movement is imparted to the sleeve 143 and the turret 472. Each time that the turret is given a movement by the cams 149 and 144 it is moved through ninety degrees. Therefore, the fruit cups 460 which are arranged quadrantly about the turret will be at one of four stations designated by letters W, X, Y, and Z each time they are stopped in their movement (see figure 5).

Attention will now be directed particularly to the construction of the fruit cups which are disposed upon the fruit turret. The fruit cup illustrated in figure 24 will be noted to have a stationary wall section 481a with a stem 482. In the lower part of the stem 482 there is formed a notch 483 and a slot 484 communicating to the bottom of the stem. Anchored within the stem 482 to project beyond either side thereof is a short shaft 485 to which the stem 486 of a movable cup wall 487 is pivoted by means of a bearing 488. Below the bearing 488 in the movable cup

member 489 is an arm 490 having at its lower end a roller bearing 491 rotatively held thereto by a bolt 492.

117 Figure 24 shows a cup 460 with the cup walls in the opposite position. Figure 25 shows the walls 481 and 487 in the closed position. It will be noted that the cup wall sections do not form a truly arcuate configuration when they are closed, but that they do when opened.

Figures 26 and 27 show the inner surface of the cup walls as comprising ribs 494 and grooves 495, the ribs and grooves running transversely of the main axis of the cup.

When the fruit cups 460 are attached to the fruit turret 472 the notches 483 are seated upon the lugs 476 and bolts 496 co-transgress the apertures within the lugs 476 and the slots 484 within the cup stems 482 to hold the cups in place. Projecting from the movable cup element 489 are arms 497 having threaded apertures 498 for the accommodation of bolts 499. Beneath the heads of the bolts 499 and in suitably apertured bosses 500 in the turret 472 are adjustment screws 501 having lock nuts 502 thereon. It is the purpose of the arms 497 and the adjustment screws 501 to provide for adjustment of the size of the fruit cups 460. When the lock nut 502 is loosened and the screw 501 advanced upwardly, the fruit cups will be partially closed.

An explanation of the operation of the fruit cups will be reserved until later when it will be given in combination with an explanation of the operation of the peeling mechanism which will now be described.

### *Peeling Mechanism*

To the outer sides of the two upright members 50 and 51 which are disposed in a common vertical  
118 plane are bolted angle pieces 510, a fragment of one of such pieces being shown in figure 28. Attached to the flanges 511 of the angle pieces 510 and which project outwardly from the side of the machine are flat side strips 512 to be held in place by bolt 513. Counter-sunk sections 514 within the flanges 511 provide a space

for the heads of bolts 514a which hold the angle pieces 510 in assembly with the upright pieces 50 and 51. A track is formed on the two upright members 50 and 51 by the angle pieces 510 and the guide strips or plates 512. Within such track there is disposed a yoke 515 for vertical reciprocation.

Depending from a cross member 516 at the bottom of the yoke 515 is a bracket 517 integral therewith and presenting opposed apertured lugs 518 and a slot 519. Intermediate the two lugs 518 there projects the arm 520 of the cam follower plate 325 (figures 23 and 17).

A bolt 520a within the slot 519 holds the arm 520 in assembly with the bracket 517. Adjustment of the height of the yoke 515 relative to the arm 520 may be accomplished by manipulating the set screws 521.

Within the cam follower 325 is a vertically arranged slot 522 for the reception of the main cam shaft 113 and to provide for a vertical movement of the cam follower. The roller bearing 324 coacts with the cam slot 323 for raising and lowering the cam follower 325 and hence the yoke 515.

Projecting to the left from the cross bar 523 at the top of the yoke 515 are two arms 524 and 525 (see figures 28 and 29). To the ends of said arms is attached a

119 frame 526 for holding the peeling mechanism. Ears

527 of the peeling mechanism are attached to the arms 524 and 525 by means of bolts 528. Between the left ends of two parallel bars 529 which form a part of the frame 526 is a bearing block 530 which serves as a journal for one end of a shaft 531. The right end of the shaft 531 is journaled within a bearing block 532 at the right end of the frame. Bolts 533 provide an anchorage for the bearing blocks 530 and 532 to the frame member.

Extending downwardly from the left end of the frame 526 are legs 534 to which are attached by means of bolts 535 apertured arms 536. The arms 536 if desired may be integral with the legs 534 instead of being fabricated thereto. Journaled within bearings 537 and 538 within



the legs 534 and arms 536 respectively are short spindles 539 to which ends of a peeling blade 540 are indirectly attached through the agency of heads 541. Pinions 539a are feathered to the shaft 539. A segmental gear 542 is fastened to the left end of the shaft 531 by means of a set screw 543 to rotate therewith and to commonly mesh with the two pinions 539a. Depending from the right side of the frame 562 are legs 544 having upturned sections 545, there being bearings 546 and 547 in the depending parts for the journaling of spindles 548. Between the upturned sections 545 and the legs 544 the spindles 548 carry pinions 549, while the leftmost end of the spindles 548 carries heads 550 to which the opposite ends of the blades 540 may be attached in any standard manner.

Figure 30 shows the contour taken by the blade 540 and the exact manner in which it is attached to the heads 541 and 550. In the present instance the contour of the blade is similar to a longitudinal surface element of a pear. In figure 28 it will be noted that the leading and sharpened edge 551 of the blade 540 is formed about the common axis of the two spindles 539 and 548 as a line of generation for each section thereof.

Just to the left of the legs 547 upon each of the spindles 548 there will be noted a cam 552 (figures 24 and 31). Each cam 552 embodies a sharp shoulder 553, an arcuate section 554 followed by an inclination 555 and a long arcuate section 556. The cams 552 are placed fixedly upon the spindles 548 in a selected angular relation relative to the peeling blades 540.

Upon the right end of the shaft 531 is fastened a segmental gear 557 by means of a set screw 558. The gear 557 engages both of the pinions 549. An arm 559 integral of the gear 557 extends upwardly to where it pivotally engages a clevis member 560 by means of a bolt 561. To the shorter end of the lever 312 is pivotally fastened a second clevis member 562, there being connected between



the two clevises 562 and 560 an adjustable link 563. In this manner the segmental gear 557 is in operative connection with the lever 312 and the vertical operating shaft 315.

Attached to each of the legs 544 at the bottom thereof by means of bolts 564 is a bearing block 565 in which there is journaled a stem 566. Near the left end of each stem 566 a sleeve 566a rotatively placed thereon and having three

121 fingers designated by the numbers 567, 568, and 569, projecting therefrom (see figure 31). Upon the fingers 567 are carried roller bearings 570 for co-acting with the cam 552 adjacent thereto. The sleeves 566a are constantly urged to rotate in a counter-clockwise direction with reference from the right side of the machine due to the urge of contact springs 570a which have ends anchored at 571 in the yoke 515 and the opposite ends connected to the fingers 568. In this manner the roller bearings 570 are urged against their respective cams 552. Attached to the fingers 569 are leaf springs 572 which are curved at their lower extremities to facilitate guidance into proper contact with the roller bearings 491 on the fruit cups there-beneath during certain stages of operation. Several notches 573 are formed within the lower edges of the fingers 568 to which the springs 570 may be attached.

To the top of each of the frame members 529 is secured a "Z" bracket 574 which is held in place by means of bolts 575. In the top of each of the brackets 574 is a threaded aperture 576 for the reception of a thumb-screw 577 having upon its lower end a flanged boss 578 and a lock nut 579.

Associated with each of the "Z" brackets 574 and its respective side frame member 529 is a peeling pad mechanism. Since each of these mechanism is alike the description will be directed particularly to the one shown in figure 28.

Centrally located in the frame members 529 is a vertical bearing 580 which is lined with a bushing 581. Reciprocally held within the bushing 581 is a sleeve 582

having a channel 583 extending upwardly from  
 122 the bottom thereof to continue into a bearing 584,  
 the channel and bearing adjoining at a shoulder 585.  
 At the bottom of the sleeve 582 is a head 586 containing  
 an inverted channel 587. Pivotaly held within the channel  
 587 by means of a pin 588 is the head 589 of a peeling pad  
 590. On the top of the head 589 are two angular faces  
 591 and 592 to form a dihedral, the two faces being adapted  
 to abut against the ceiling of the groove 587 to limit the  
 pivotal movement of the peeling pad. Cotransgressing the  
 peeling pad head 589 and the peeling pad 590 is an aper-  
 ture 593 which is in alinement with the channel 583 in the  
 sleeve 582. The lower end of the aperture 593 is counter-  
 sunk at 594 in the face of the peeling pad.

Extending through the openings 583 and 593 to be re-  
 ciprocally contained within the bearing 584 is a stem 595  
 having on the lower end thereof a knockout pad 596 which  
 is of a thickness and diameter to set within the counter-  
 sunk section 594. At the upper end of the stem 595 are  
 placed collars 597 and 598 to limit the downward move-  
 ment of the stem as it is urged by a compression spring  
 599, the latter pressing against the shoulder 585 and a  
 block 600 which is secured to the stem by means of a pin  
 601.

About the sleeve 582 at its top is a collar 602 having a  
 flat side 603 for sliding against the side of the bracket 574  
 (see figure 34). A thumb screw 604 is provided for hold-  
 ing the collar 602 to the sleeve 582. Between the collar  
 602 and the flanged lug 578 is a compression spring 605  
 which constantly urges the sleeve 582 downwardly  
 123 to the limit provided by the collar 602 abutting  
 against the top of the bearing 580. The knockout  
 pad 596 is always urged from the seat 594 in the manner  
 shown in figure 26. The spring 599 is much weaker than  
 the spring 605 so that the knockout pad 596 may be forced  
 upwardly into the seat 594 without first moving the peeling  
 pad 590 upwardly by compressing the spring 605. Turn-

ing of the sleeve 582 in the bearing 580 is prevented by the flat face 603 of the collar 602 against the "Z" bracket 574.

After the fruit has been deposited within the fruit cups 460 at station W by the leaf-like members 432 associated with the splitting knife, the turret is given a turn in a counter-clockwise direction to deliver that pair of cups to station X (figure 5). It is at station X that the peeling operation is enacted upon the fruit. At the time the fruit cups arrive at station X the segmental gear 557 will be in the position shown in figure 2 while the cam plate 120 and the cam followers 121 and 122 will be in the position shown in figure 17. It will be recalled that the face cam plate 120 is to be rotated in a clockwise direction (figure 17).

While the cam plate 120 is rotating to carry the section of the groove 322 which lies between the points 605 and 606 past the roller 320 there will be no movement of the cam follower 122 for the groove between those points is of constant radius from the shaft 113. When the point 606 arrives opposite to the roller 320, the cam follower 121 will be to the backmost of its reciprocal limits, the segmental gear 557 will be rotated to the most counter-clockwise of its oscillative limits, and the peeling blades 540 will be rotated to the position shown in figure 32. When in this position, the blades 540 are ready to make a cut into the fruit for severing the peeling therefrom.

Concurrently with the movement of the cam 120 to place the point 606 opposite to the roller 320, the roller 324 is allowed to fall along the section of the groove 323 between the points 607 and 608. In this manner, the cam follower 325 is lowered to lower the yoke 515 and the peeling mechanism whereby the peeling pads 590 are lowered against the faces of the fruit which are in the fruit cups at the peeling station. While the fruit is thus held firmly within the cups by the peeling pads and the cam 120 continues to rotate, the roller 320 is displaced forwardly as

the radial position 609 is carried oppositely thereto. Movement of the roller 320 and the cam follower 121 forwardly causes a counter-clockwise rotation of the shaft 315 whereby the segmental gear 557 is given a clockwise movement, with reference from the right side of the machine, to rotate the pinions 549 and the peeling blades 540 in a counter-clockwise direction to pass the blades along the walls of their respective fruit cups just beneath the surface of the skin of the fruit held by such cups. During the cutting movement of the blades 540 caused by the forward displacement of the roller 320, the roller 324 is maintained at a constant elevation while the section of the groove 323 between the radial points 608 and 605 is passed therebeneath. Consequently, the yoke 515 and the peeling mechanism are maintained downwardly in contact with the fruit being peeled.

125 During the turning of the cam 120 through an additional forty-five degrees to remove the point 605 thereunder, the peeling mechanism is maintained at the lower elevation on account of the equal radii of the groove 323 between those points. The roller 320 during the last named movement of the cam 120 moves to a point forty-five degrees beyond the point 609. Continued movement of the cam 120 in a clockwise direction brings the point 609 opposite to the roller 324 whereby that roller is displaced upwardly to lift the peeling mechanism from the fruit which has been peeled. At the same time the roller 320 traverses an additional forty-five degrees of the remaining distance between the points 609 and 607 to maintain the cam follower 121 in its most forward position and consequently to maintain the peeling blades 540 in a counter-clockwise position slightly above the horizontal.

After the roller 324 and the parts supported thereby have been elevated by the displacement of the roller opposite to the radial position 609, the peeling blades 540 will be clear of the fruit and may be rotated in the opposite direction to that which they were rotated when making the

cut through the fruit and to replace them to a position in readiness to make a succeeding cut. Hence, after the cam 120 turns through an additional ninety degrees, the point 607 will be opposite to the roller 320 and during the next forty-five degree movement of the cam 120, the roller 320 is traversed by the camming surface of the groove 322 between the radial positions 607 and 608 whereby the camming follower 121 is withdrawn rearwardly to cause a 126 clockwise movement of the blades 540, with reference from the right side of the machine. While the roller 320 is being carried rearwardly by its respective groove section between the radial positions 607 and 608, the roller 324 is maintained at its higher elevation.

During the next forty-five degree movement of the cam 120, the cam follower 121 is maintained at its backwardly position while the roller 320 is traversed by the groove section between the points 608 and 606; the roller 324 is maintained in its upper position as it is rolled along the groove 323 to the position 607. At this time the machine will again be arranged as shown in figures 2 and 17.

After the peeling blades 540 have passed through the fruit to sever the skin therefrom and the peeling mechanism has been elevated from the fruit, the fruit turret is given a counter-clockwise movement to remove the pared fruit from the peeling station to a coring station, which will be described later. Simultaneously with the removal of the pared fruit from the peeling station to the coring station, different fruit is placed at the peeling station. It follows that when the cam 120 has completed a revolution to again place the roller 324 in coincidence with the radial position 607 and the roller 320 in coincidence with the position 605 in readiness to enact another peeling operation there is a fruit in position to be acted upon.

The cooperation of the fruit cups 460 with the peeling mechanism will now be described.

When the yoke 515 in support of the peeling mechanism is lowered to place the peeling pads 590 against the fruit,

the springs 572 are lowered against the rollers 127 691 depending from the movable elements of the fruit cups. As the springs 572 are lowered along the sides of the rollers 591, the cup elements 489 are rotated in a counter-clockwise direction to close the cup walls tightly about the fruit. The walls of the fruit cup are not positively compressed against the sides of the fruit on account of the fact that the compression of the walls is caused by the springs 570a.

In figure 24a, the position of a peeling blade 540 and of a cam 552 at the time the peeling pads 590 are carried against the fruit is illustrated. It will be noted in figure 24 that the camming surface 554 of the cam 552 is against the roller 570 and that the full effect of the contraction spring 570a is available. Figure 25 illustrates the position of a fruit cup when the peeling mechanism has been entirely lowered and when the roller bearing 591 has been displaced by the spring 572 for the closing of the cup. In this manner the fruit is held tightly by the walls of the cup when the peeling blade 540 first makes its entrance thereinto to sever the peeling from the fruit. Since the stationary cup element has walls, the interior of which are generated about an origin coinciding with the axis of the peeling blades, the blades will swing at a uniform selected distance from the walls of the fixed elements. The cup walls of the movable elements when the cups are closed do not coincide with an arc generated about the rotating axis of the peeling blades and therefore must be removed from the path to be taken by the blades before the blades start to traverse the movable cup walls (see figure 25).

128 In figure 29 a fruit cup is illustrated after the peeling blade 540 has made entrance to the fruit and has approached very nearly the end of the stationary cup wall. The cam 552 which rotates with the peeling blade 540 is arranged radially with the blade so that the inclined camming surface 555 will traverse the roller 570 to rotate the collar 566a whereby the leaf spring 572 is removed from the roller



591 before the blade 540 reaches the movable cup element. In this manner, the pressure is relieved from the arm 490 of the movable cup element, the pressure having been exerted by spring 570a, to permit the movable cup element to pivot about the shaft 485 to allow the cup walls to spread apart. Continued movement of the blade 540 tends to press the fruit which is being peeled against the movable cup walls to assist in the displacement of the movable cup wall so that its inner surface will be arranged in parallelism with the path taken by the blade as it is traversed thereby. That is, the movable cup walls are constructed about origins which coincide with the rotating axes of the blades 540 when the cups are in the open position. During the time that the blade 540 is passing along the cup wall 487 the effect of the spring 570a is overcome by the roller 570 which is being displaced against the urge of the said spring by the passing of the camming surface 556 along the roller.

In figure 30 the position of a peeling cup and the peeling blade therefor is illustrated after the blade has completely traversed the cup walls to have peeled a fruit. After the peeling blade has been rotated to the position shown in figure 30, the roller bearing 324 in support of the  
 129 peeling mechanism will be in registry with the radial position 606 in the cam 120 in readiness to elevate the peeling mechanism pursuant to further rotation of the cam.

It is the purpose of the knockout pads 596 to prevent the peeling pads 590 from adhering to the fruit and thus lifting it from the fruit cups when the peeling mechanism is elevated. The springs 599 are of sufficient strength to break the vacuum between the flat face of the fruit and the peeling pads by urging the knockout pads thereagainst, and the area of the knockout pads is too small for the creation of a vacuum therebetween and the fruit to suspend the fruit. The fruit is then released from the peeling pads by the knockout pads and allowed to remain as prearranged in the fruit cups. When the fruit is pressed from the peeling pad



by a knockout pad, the peeling pad is pivoted clockwise (figure 28) until the face 592 contacts the ceiling of the groove 587. Since the component of force exerted by the knockout pad is vertical, the end of the fruit at the upper portion of the tilted peeling pad will be first released, thus making it easier to destroy the vacuum between the fruit and pad.

A more effective peeling of the fruit is made possible because of the ribbed effect of the cup walls. The pressure of the walls upon the fruit being peeled is concentrated at the points where the ribs 494 are in contact with the peel so that the friction between the fruit peel and the cup walls will be increased at those sections. This condition eliminates the tendency of the peeling to slide along the cup walls with the blade in its movement. It has been found that when the walls of a fruit cup are made smooth  
130 that there is a tendency for the peeling to creep along with the blade to clog the blade and to thus inpair the peeling operation. So far as maintaining the peeling of the fruit in a fixed relation to a cup wall is concerned, many designs or scorings of the cup wall will be as effective as the design illustrated. However, the present design has the special advantage of adapting the cup walls to have the peeling removed therefrom by a cup cleaning mechanism later to be described.

### *The Coring Mechanism*

Extending between the two upright frame members 51 and 52 at the back of the machine is a bar 610 which serves as a support for the coring device (see figure 3). In either end of the bar 610 is a bearing 611 covered by a pillow block 612. Bolts 613 hold the pillow block in place to the bearings 611. Commonly held at opposite ends within the bearings 611 is a shaft 614. At the center of the shaft 614 is attached a sleeve 615 and by means of a set screw 616 to rotate with the shaft. Integral with the sleeve 615 at either end thereof are split collars 617 having apertured

ears 618 for the reception of bolts 619. Beneath the heads of the bolts 619 are springs 620 for cushioning the compression effect of the bolts (figure 33). In said figure it will be noted that the collars 617 have a greater internal diameter than that of the shaft 614 so that there is a space between the collars and the shaft. Projecting from the sleeve 615 is a lug 621 upon which there is a strip 622 having a downwardly turned end 623.

Adjacent to the outer end of each of the collars 617 and upon the shaft 614 is mounted a compound bearing block

624, one of said blocks being shown in detail in figure 36. Traversing each bearing block 624, laterally, is a bearing 625 for receiving the shaft 614. The bearing block 624 shown in figure 36 is the one at the right of the sleeve 615 with reference from the front of the machine and since the bearing block to the left of the sleeve is identical thereto, as are the appendages therefrom, the description will be confined particularly to the bearing block shown in figure 36 and the parts associated therewith.

Extending from the body of the bearing block 624 is a collar 626 (figures 3, 35 and 37) which projects beneath the split collar 617 adjacent thereto. A bronze bushing 627 is attached to the shaft 614 beneath the collar 626. By tightening the adjustment screw 619 the spring 620 is further compressed to draw the split collar 617 more tightly about the collar 626 and to thereby increase the frictional engagement between the collar 626 and the split collar 617. The bearing block 624 is free to rotate about the bushing 627 and hence the shaft 614 excepting for the frictional engagement between the collar 626 and the split collar 617, the latter being immovable relative to the shaft 614 since it is a part of the sleeve 615 which is secured to the shaft by the set screw 616.

Lubrication of the bearing 625 which traverses the collar 626 is provided by a cap 628 which is screwed into a threaded aperture 629 leading to the bearing.

In the block 624 is a bearing 630 extending normally to the bearing 625. Within the bearing 630 there is journaled a sleeve 631 having a flange 632. A notch 633 is cut  
 132 within the face of the flange 632 in the manner shown in figure 38. The base 634 of a coring paddle 635 engages the flanged end of the sleeve 631 by projecting a lug 636 into the notch 633. A flanged running nut 637 co-engages the flange 632 and threads 638 upon the coring paddle base to assist the lugs 636 to hold the coring paddle and the sleeve 631 in assembly.

A plan view of the coring paddles 635 is shown in figure 3. Extending from the base 634 are two symmetrically shaped bar members 639 which are adjoined at their extended ends in a head 640. The central portions of the bars 639 swerve outwardly in opposed relationship to provide an enlarged space 641 therebetween to accommodate an enlarged section of a coring spoon 642. Within the flat front faces of the coring paddles 635, exposed in figure 3, are countersunk sections in which the fingers 634 of U-shaped flipper members 644 are adapted to be seated to be made flush with said faces.

In figure 39 are shown pins 645 anchored in opposite sides of a peeling paddle head 640 to serve as journals for the flipper member 644. Held to the pins 645 by keys 646 are torsional springs 647 which engage the flipper member 644 to constantly urge it to rotate about the pins 645 in a direction to keep the fingers 643 seated within the cut-away sections provided therefor in the front faces of the coring paddles.

Reference to figure 36 will now be had where there is shown a spindle 648 which is rotatively stationed within the sleeve 631. At the right end of the spindle 648 (figure 36)  
 133 is a lug 649 to which an end of a coring spoon 642 is attached by means of a set screw 651. Said coring spoon is a cucullated member having either longitudinal edge sharpened. In the center of the coring spoon is an enlarged section 652 having sections 653 and 654 at

either side. It is the purpose of the enlarged spoon section 652 to remove the core proper from a fruit, while the sections 653 and 654 sever the threads which extend between the core and the blossom end of the fruit and between the core and the stem bearing end of the fruit respectively.

Set within the extended end of the coring spoon is a spindle 655 which is journaled in a bearing 656 provided within the head 640 of the coring paddle.

Circumscribing the sleeve 631 at a section disposed within the bearing 630 is a shallow channel 657 having an aperture 658 communicating to the interior of the sleeve. Registering within the aperture 658 is the end of a channel 659 which communicates to the left end of the spindle 648. A grease plug 660 is threaded into the channel 659 at the end of the stem 648. About the spindle 648 at the section where the inner end of the channel 659 terminates is a groove 661.

Held to the bearing block 624 by means of bolts or screws 662 is an arm 663 having in its extended end a bearing 664 in alinement with the bearing provided within the sleeve 631 and for receiving an end of the spindle 648. Beyond the bearing 664 and about the spindle 648 is a collar 665 which is held to the spindle by means of a set screw 666. It is the purpose of the collar 665 to prevent longitudinal movement of the spindle 648.

Intermediate the bearing 664 and the sleeve 631 134 there is secured to the spindle 648 a pinion 668 by means of a key 667. At the end of the key 667 is a lug 669. The lug 669 projects from the face of the pinion 668 into the path of lugs 670 and 671 which project respectively from a collar 672 and from an end of the sleeve 631. The collar 672 is fixedly attached to the sleeve 631 by means of a set screw 673. In figure 40 it will be noted that the lugs 670 and 671 subtend angles with reference from the axis of the spindle 648. \*

Within an aperture 674 in the bearing block 624 is threaded a sleeve 675 which extends very closely to the periphery of the collar 672. Placed within the sleeve 675

is a ball bearing 676 to be held impingingly against the collar 672 by means of a spring 677, the latter being pressed downwardly into the sleeve by a set screw 678. Adjacent to the aperture 674 is a threaded aperture 679 into which there is threaded an adjustment nut 680 whose utility will be explained later in the description. Set within the opposite end of the bearing block 624 from the bolt 680 is a pin 681 to serve as a journal for a roller 682 shown in figures 35 and 37.

In figure 37 there will be noted a bracket 683 attached to the cross bar 610 by means of bolts 684. An enlarged view of the bracket 683 and the parts assembled therewith is shown in figure 41. Formed in the upper body of the bracket 683 are bearings 685 in which there is journaled a shaft 686. Upon the ends of the shaft 686 are cams 687 which are attached to the shaft 686 by means of set screws 688. Intermediate the bearings 685 there is keyed 135 to the shaft 686 an arm 687a upon which there is journaled by means of a bolt 688 a roller bearing 689 and into which there is anchored a pin 690 for abutting against a pin 691 during certain stages of operation of the device. The pin 691 is anchored in the side wall of the bearing 685 to the left (figure 41).

Wrapped about the shaft 686 is a torsional spring 692 having one end attached to the arm 687a by means of a screw 693, the opposite end being attached to a bearing block 685 by means of a screw 694. The urge exerted by the spring 692 is such as to rotate the shaft 686 in a direction to hold the pin 690 against the pin 691. In figures 35 and 37 is shown a side elevation of one of the cams 687. Here it will be noted that the cams have a fall 695, a rise 696, a camming surface 697, and a camming surface 698. Depending from the frame member 54 at the top of the machine are bars 699 having grooves 700 in their lower ends. Sprags 701 are pintled in the grooves 700 by means of pins 702. In figure 37 it will be noted that points 703 of the sprags strike against the ceiling of the grooves 700

to prevent turning of the sprags outwardly of the machine frame. An arcuate section 704 permits the sprags to be pivoted inwardly of the machine frame.

To the left side of the machine frame displayed in figure 4 is attached a bar 705 having bearings 706 in either end for the journaling of a shaft 707. Pillow blocks 708 are held in position to the bearings 706 by means of bolts 709.

Upon the back end of the shaft 707 is a pinion 710 136 which meshes with a pinion 711 upon the left end of the shaft 614 and for driving the latter named shaft. Forwardly of the bearing 706 at the back side of the machine there is keyed a pinion 712 to the shaft 707, there being a rack 713 for commonly engaging the pinion 712 and the cam follower plate 126. For guiding the rack 713 there is a grooved member 714 held to the bar 705 by means of bolts 715.

By reference to figure 9 it will be seen how the cam follower 126 is raised and lowered by the face cam 125 and by means of the groove 130 which is eccentric of the rotating axis of the face cam 125. The roller bearing 131 which is attached to the cam follower 126 in a manner to project into the groove 130 moves the cam follower 126 upwardly and downwardly as is permitted by the oblong slot 133 within the body of said follower.

When the cam follower 126 and the rack 713 are reciprocated upwardly and downwardly the shaft 707 which is operatively connected to the rack 713 by the pinion 712 is caused to oscillate. Similarly the shaft 614 which is connected to the shaft 707 by the pinions 711 and 710 is caused to oscillate. On the outer side of the bearing blocks 624 there are secured to the shaft 614 beveled gears 716 by means of set screws 717. The beveled gears 716 mesh with the pinions 668 so that when the bearing blocks 624 are held against rotating with the shaft 614 the pinions 668 will be caused to rotate.

The description of operation of the coring device will be confined strictly to the coring instrumentality furtherest



to the right upon the shaft 614 since the other instrumentality operates in a similar fashion except that the direction of movement of its parts is reversed because of the fact that the beveled gear 716 for the driving thereof is on the opposite side. Attention will now be directed to figures 37 and 42, where the coring paddle 635 and the coring spoon 653 are shown in the vertical position with the spoon presenting its two opposite edges to the front face of the coring paddle. At this time the rack 713 is commencing a downward movement. Movement of the rack downwardly causes a rotation of the shaft 614 in a clockwise direction with reference from the left side of the machine. Hereafter in the description of this part of the device the direction of rotation will be taken with reference from the left side of the machine. Unless otherwise noted rotation of the spindle 648, the sleeve 631 and the parts attached thereto will be taken with reference from the extended end of the paddle and coring spoon. As the shaft 614 is rotated in a clockwise direction the frictional engagement between the split collar 617 and the collar 626 causes the bearing block 624 to rotate with the shaft. The coring paddle continues to rotate with the shaft 614 until the forward face thereof comes in contact with the fruit 238 within the fruit cup 460 thereunder in the manner shown in figure 43. While the coring paddle is being carried into such position with the fruit, the shaft 686 remains in such a position that the camming surface 697 will be presented to the roller bearing 682 upon the bearing block 624 and so that the coring paddle will not be obstructed in its movement to engage the fruit.

After the engagement of the fruit 238 by the coring paddle further turning of the coring instrumentality with the shaft 614 is prevented. It follows that when there is a further clockwise turning of the shaft 614 the beveled gear 716 causes a turning of the pinion 668 and the spindle 648 in a counter-clockwise direction. Thus the coring spoon 653 is caused to rotate in the



manner indicated by the arrow in figure 43. When the coring spoon and coring paddle are in the position shown in figures 42 or 43 and the coring paddle is against the fruit 238, the lugs 670, 671 and 669 are in the position shown in figure 44. Rotation of the pinion 668 after the peeling paddle is in contact with the fruit 238 cannot rotate the paddle 635 because of the engagement of the paddle with the fruit. Therefore, the spindle 648 and the coring spoon 642 rotate together through an angle of 203 degrees to place the coring spoon and the coring paddle in the relative position shown in figure 45. While the coring spoon 642 is rotated through the 203 degree angle to sever the core from the fruit, the coring paddle 635 is being held tightly against the severed face of the fruit by the frictional engagement of the split collar 617 with the collar 626 which tends to rotate the bearing block 624 and the coring paddle therewith.

When the coring paddle 635 first comes in contact with the severed face of the fruit 238 the downturned end 623 of the strap 622 upon the lug 621 makes contact with the roller bearing 689 to rotate the arm 687a, the shaft 686 and the cams 687 incident to a further turning of the shaft 614.

While the coring spoon 642 is being rotated through 139 the 203 degrees to sever the core from the fruit, the cam 687 is passing the camming surface 697 beneath the roller 682. Concurrently with the finishing of the core severing stroke the cam 687a is rotated to a position to bring the inclined camming surface 696 beneath the roller bearing 682 to impart a slightly counter-clockwise movement to the bearing block 624 and to thereby lift the coring paddle 635 slightly from the fruit cup. When the coring spoon 642 has finished its cutting stroke and is in the position shown in figure 45 the lug 669 has been moved from the position shown in figure 44 to a position in contact with the opposite edges of the lugs 670 and 671. Further turning of the shaft 614 will then cause the lug 669 to turn the lugs 670 and 671 therewith and to cause a turning of the sleeve

631 with the spindle 648. The spindle 648 and the sleeve 631 are then rotated together through an angle of one hundred eighty degrees. The position assumed by the parts under discussion at the finish of the one hundred eighty degree movement is illustrated in figures 46 and 46a. By inverting the coring paddle and the coring spoon from the position shown in figure 45 the fruit 238 is rotated from the fruit cup 460 to lie upon the coring paddle while the core 900 drops through the space between the two members of the coring paddle to fall within the fruit cup with the fruit peel in the manner illustrated in figure 35.

While the coring paddle 635 is being rotated to root the fruit from the fruit cup the main body of the strip 622 upon the lug 621 is being passed along the roller 689 to hold the arm 687a rotated in the position shown in figure 35 so that the camming surface 698 of the cam 687 will be presented to the roller bearing 682 to maintain the bearing block 624 in the previously rotated counter-clockwise position whereby the coring paddle is maintained slightly elevated from the fruit cup. It is desirable to elevate the coring paddle a slight distance from the fruit cup while the fruit is being rotated therefrom so that the coring paddle will not injure the fruit by pressing it too tightly against the cup walls. Injury to the fruit might occur if the fruit was of a slightly larger size than for which the machine had been set. Because of the flat faces of the coring paddle and the fruit and the viscosity of the fruit juice a vacuum is formed between those faces so that the fruit is lifted from the cup along with the coring paddle.

As soon as the core 900 has been severed from the fruit, and the fruit is lifted from the fruit cup 460 in the manner shown in figure 46, the downward movement of the rack 713 is stopped and an upward movement thereof is immediately started. Movement of the rack 713 upwardly causes a counter-clockwise movement of the shaft 614 and a turning of the bearing block 624 therewith because of the frictional engagement of the split collar 617 with the collar 626

which projects from the bearing block. So long as the bearing block 624 rotates with the shaft 614 as does the beveled gear 716 there will be no movement of the beveled gear relative to the pinion 668 and hence no turning of the coring paddle or coring blade. The fruit which lies upon the coring paddle will be lifted upwardly until the flipper member 644 strikes the sprag 701 in the manner shown in dotted outline in figure 37. After the flipper member 644 strikes the sprag 701 the coring paddle continues in its counter-clockwise movement causing a pivotal movement of the flipper member to lift the fingers 643 from their set within the face of the coring paddle to flip the fruit from the paddle in the manner shown. The fruit so unseated from its position upon the coring paddle may fall into a receptacle or other means for catching the fruit such as a moving belt or stream of water.

After the fruit 238 has been removed from the upwardly moving coring paddle the shaft 614 and the coring paddle continue the counter-clockwise movement together until a substantially upright position of the coring paddle is reached. The upright position is determined by the striking of the heads of bolts 680 and 680a (see figure 37). Further movement of the bearing block 624 along with the shaft 614 is precluded when the adjustment bolts 680 and 680a come together. However, the shaft 614 and the beveled gear 716 continue to rotate in a counter-clockwise direction. A counter-clockwise movement of the beveled gear 716 while the bearing block 624 is held stationary causes a clockwise movement of the pinion 648. It is at this time that the roller bearing 676 comes into play. It is the purpose of the roller bearing 676 to engage the collar 672 to prevent movement of the sleeve 631 along with the spindle 648 while the latter named member and the coring spoon attached thereto are being rotated in the clockwise direction. Thus the coring paddle is held stationary while the pinion and the lug 669 are being rotated 203 degrees clockwise from the position shown in dotted outline

in figure 44. This 203 degree clockwise movement of the pinion and coring spoon carries the coring spoon into the position relative to the coring paddle illustrated in figure 42. Continued turning of the shaft 614 in the counter-clockwise direction then causes the lugs 671 and 670, which are then engaged at their opposite sides by the lug 669, to rotate with the pinion 668 through one hundred eighty degrees at which time the rack 713 has reached the upper of its reciprocal limits. During the last 180 degree movement of the pinion 668 the coring spoon and coring paddle are rotated together to be positioned as illustrated in figure 37 for the succeeding downward movement to engage a different fruit when the downward movement of the rack 713 is commenced.

While the bearing block 624 is being rotated in a counter-clockwise direction the lug 621 is being removed from the roller bearing 689 to permit the rotation of the arm 687a, the shaft 686, and the cam 687 in a clockwise direction by the spring 692 to replace them in some such position as shown in figure 37. It is in this manner that the camming surface 697 is replaced in readiness to again be contacted by the roller bearing 682 when the coring paddle is brought into engagement with a fruit and while the coring spoon is being drawn through the fruit for removing the core.

Pursuant to the clockwise movement of the shaft 614 to carry the coring spoon and coring paddle into operative positions with a fruit the end of the flipping member knocks the sprag 701 from its path in the manner illustrated in figure 35.

### *The Cup Cleaning Mechanism*

After the fruit has been cored at station Y and the fruit removed therefrom to leave the core and peeling within the cups, the fruit turret is given a movement to advance those cups to station Z. It is at this station that the peeling and cores are removed from the cups.

A set screw 751 may be used to secure a sleeve 750 to the shaft 707 substantially midway its two ends. At either end of the sleeve 750 and integral thereto are split collars 752 having apertured ears 753, the apertures being suitably threaded for coacting with the threads upon bolts 754 for drawing the pairs of ears together. Upon either side of the sleeve 750 beyond the split collars 752 are identical bearing blocks 755 which are shown in figures 4, 47 and 48. The bearing block shown in figure 48 has therein a bearing 756 for a spindle 757. At the outer end of the spindle 757 is a collar 758 held thereto by a set screw 759. Upon the spindle 757 at the opposite end adjacently to the bearing block is a pinion 760. The pinion 760 and the collar 758 hold the spindle 757 against longitudinal displacement. The extended end 761 of the spindle 757 has a flat face 762 to which a flat leaf-like cleaner plate 763 is secured by rivets or screws 764. The contour taken by the edge of the cleaner plates 763 (figure 47) is the same as a longitudinal wall element of the fruit cups.

144 The manner in which the spindle 757 is secured in the bearing block 755 at the right of the sleeve 750 (figure 47) differs from the assembly just described in that the position of the collar 758 and the pinion 760 upon the spindle 757 is reversed. At the sides of the bearing blocks 755 are segmental beveled gears 765 fixedly secured to the shaft 707. The gears 765 mesh with the pinions 760. Projecting from the face of the bearing blocks 755 opposite to the side at which the beveled gears 765 are disposed are collars 766 which project into the split collars 752. There is a frictional engagement between the split collars 752 and the collars 766, the amount of friction being adjustable by turning of the bolts 754 to change the diameter of the split collars. Attached to the cross bar 705 by means of bolts 767 are stop pieces 768 projecting upwardly to engage an end of the bearing block 755 during certain stages of the operation of the device, in the manner illustrated in dotted outline in figure 48.

The fruit cups laden with the peeling and severed cores are delivered to station Z simultaneously with the delivery of fruit to be cored at station Y. Subsequent to the arrival of the fruit to be cored and the fruit cups to be scavanged at their respective stations, the rack 713 is given a downward movement to rotate the shaft 707 and the shaft 614 in a direction to bring the coring paddles and the cleaning plates 763 toward their respective cups. When the shaft 707 is rotated in a clockwise direction, figure 48, the spindles 757 are moved with the bearing blocks 755 with the cleaning plates 763 in the position shown in said figure 145. The friction between the split collars 752 and the collars 766 causes the bearing blocks to rotate with the shaft 707. Concurrently with the arrival of the spindles 757 in a horizontal position as shown in dotted outline in figure 43 and with the cleaning plates above their respective fruit cups, corners 769 of the bearing blocks strike the upper ends of the stop members 768 so that there will be a relative movement between the beveled gears 765 and the pinions 760. When viewing the spindles 757 from the end bearing the cleaning plates they are seen to rotate in a clockwise direction. After the spindles have been stopped the shaft 707 continues to turn until the cleaning plates have been rotated one hundred eighty degrees to scoop the fruit core and peel from the cup and dispose it upon the then top side of the cleaning plates. Thereafter the rack 713 starts its upward movement to rotate the shaft 707 in a counter-clockwise direction (figure 43) whereby to rotate the bearing blocks 755 and to carry the cleaning plates 763 upwardly about the axis within the shaft 707.

After the bearing block 755 has been rotated in a counter-clockwise direction to some such position as shown in figure 43, the corner 770 of said block collides with the head of a bolt 771 to preclude further movement of the bearing block and to stop it with a jar to catapult the peeling and core from the cleaning plate 763 into a receptacle or onto a belt or into a water trough (not shown). After the movement of the bearing block 755 has been stopped incidental



to the fruit peeling being knocked therefrom the  
 146 shaft 707 continues to turn in the counter-clockwise  
 direction until the spindle 757 has been rotated  
 through 208 degrees to again position the cleaning plate 763  
 for a subsequent clockwise movement to engage another  
 fruit cup to be cleaned.

After the pair of fruit cups at station Z have been cleaned  
 by the plates 763 and the plates begin their upward move-  
 ment, the turret is given a movement to deliver those cups  
 to station W where they will be refilled with a different  
 fruit to be treated at the stations X and Y in the manner  
 above described.

147 What is claimed as new and is desired to be secured  
 by Letters Patent of the United States is:

1. A pear treating apparatus comprising a frame, a turret  
 in said frame, and adapted for intermittent movement,  
 fruits cups on said turret, there being stations about said  
 frame at which said cups are adapted to be successively  
 disposed incident to each intermittent movement of said  
 turret, a mechanism for feeding fruit to said cups at one of  
 said stations, a paring mechanism at the succeeding station,  
 a coring mechanism at the next succeeding station, and a  
 mechanism for scavenging said cups at the next succeeding  
 station, the last named station being precedent to the said  
 feeding station.

2. A pear treating apparatus comprising a frame having  
 stations arranged thereabout a turret in said frame and  
 adapted for intermittent rotational movement means for  
 imparting movement to said turret, fruit holding cups on  
 said turret at such an interval to be advanced from one of  
 said stations to the next by movement of said turret, a  
 mechanism at the first of said stations for depositing fruit  
 in the cups at said station, said mechanism comprising a  
 movable carriage for carrying a fruit, a splitting instru-  
 mentality having separable parts adapted to enter said  
 fruit longitudinally and to deposit the resulting split fruit  
 segments into the cups at said station incident to being



separated, and means for separating said parts, a peeling mechanism at the second of said stations and for severing the peeling from said fruit when the

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147 1. A fruit treating apparatus comprising a frame, a turret in said frame, means for moving said turret intermittently, paired fruit cups for half fruits on said turret, stations about said frame at which said cups are adapted to be successively disposed incident to each intermittent movement of said turret, a second turret to receive whole fruit, means for splitting the whole fruit, a mechanism for removing fruit from said second turret and feeding the split fruit to said paired cups on said first turret at one of said stations, a paring mechanism at the succeeding station, a coring mechanism at the next succeeding station, and a mechanism for scavenging said cups at the next succeeding station, the last named station being precedent to the said feeding station.

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147-148 2. A fruit treating apparatus comprising a frame, a turret in said frame, means for moving said turret intermittently, pair fruit holding cups on said turret, stations about said frame with which successive pairs of cups register, a second turret to receive whole fruit, a mechanism at the first of said stations for receiving fruit from said second turret and for depositing such fruit in the cups at said station, said mechanism comprising a movable carriage for conveying a fruit, a splitting instrumentality having a cutting member and separable elements adapted to enter such fruit longitudinally and to deposit the resulting split fruit segments into the cups at said station, and means for separating said elements, a mechanism for severing the peeling from such fruit at the second of said stations, a device for severing the core from said fruit at the third of said stations, and a cup cleaning mechanism at the fourth of said stations for removing the refuse from said cups,

said cups being advanced to the first station incident to further movement of said turret.

148-149 3. In a fruit treating apparatus, the combination with a frame having stations thereabout, of a fruit conducting means, a device for bobbing the stem end from a fruit held by said conducting means depending from said frame, a fruit carriage for abducting the stemmed fruit from said conducting means and conveying it to the first of said stations, a turret in said frame, means for intermittently moving said turret, fruit holding cups upon said turret and adapted to be advanced from one station to the next by a movement of said turret, a splitting mechanism operatively associated with the cups when at the first of said stations and having separable parts adapted to enter the abducted fruit longitudinally thereof, means for separating said parts after entry into said fruit to deposit the split fruit sections into the fruit cups at said first station, a mechanism for severing the peel from such fruit at the second of said stations, a device to sever the core from said fruit at the third of said stations, and a cup cleaning mechanism at the fourth of said stations for removing the refuse from said cups, said cups being conveyed from the fourth station to the first station incident to further movement of said turret.

203 24. Means for preparing fruit comprising a loading mechanism having a plurality of fruit receiving receptacles for receiving one at a time whole fruit, and removing means operable in succession upon fruit in said loading mechanism, transfer mechanism for receiving the fruit from said loading mechanism with its end removed and having in combination therewith a fruit splitting mechanism, paired cups to receive the split fruit from said transfer mechanism, means for moving said cups, fruit paring and fruit coring mechanisms in the path of said paired cups, and means for actuating said loading, bobbing, trans-

fer, peeling and coring mechanisms in synchronism with the movement of said cups.

\* . . . . \*

209 28. In combination, a loading turret having members each for receiving a whole fruit, bobbing means for bobbing the end of fruit in said members and in the path of such fruit as said turret is rotated, a second turret having paired members for receiving half fruit, fruit splitting means intermediate said turrets, a conveyor for receiving fruit from the members on said first turret, conveying it past said splitting means, and depositing the halves thereof into said paired members on said second turret, means for peeling the half fruit in said paired members, and means for actuating said several turrets, conveyor and bobbing and peeling means in synchronism to bob, split and peel fruit.

210 29. In combination, a loading turret having members each for receiving a whole fruit, means for bobbing the end of fruit in said members and in the path of such fruit as said turret is rotated, a second turret having paired members for receiving half fruit, splitting means intermediate said turrets, a conveyor for receiving fruit from the first turret, conveying it past said splitting means, and depositing the halves thereof into said paired members on said second turret, means for peeling the half fruit in said paired members, means for removing the core from the half fruit in said paired members, and means for actuating said several turrets, conveyor and said several means in synchronism to bob, split, peel and core fruit.

30. In combination, a loading turret having members for receiving whole fruit, a knife for bobbing the end of fruit in said members and in the path of such fruit as said turret is rotated, a second turret having holding means for receiving half fruit, a splitting knife intermediate said turrets, a conveyor for receiving fruit from the first turret, conveying it past said splitting knife, and depositing it into said holding means, knives for peeling the half fruit in said holding

means, other knives for removing the core from the half fruit in said holding means, members for discharging the peeled and cored half fruit from said holding means, and means for actuating said several turrets, conveyor, knives and members in synchronism to bob, split, peel and core fruit and to discharge the peeled and cored fruit from said holding means.

211      31. In combination, a loading turret having members for receiving whole fruit, a knife for bobbing the end of fruit in said members and in the path of such fruit as said turret is rotated, a second turret having paired members for receiving half fruit, a splitting knife intermediate said turrets, a conveyor for receiving fruit from the first turret, conveying it past said splitting knife, and depositing it into said paired members, knives for peeling the half fruit in said paired members, other knives for removing the core from the half fruit in said paired members, members for discharging the peeled and cored half fruit from said paired members, members for scavenging the paired members after the peeled and cored half fruit is discharged therefrom, and means for actuating said several turrets, knives, conveyor and members in synchronism to bob, split, peel and core fruit, to discharge the peeled and cored half fruit from said paired members and to thereafter scavenge said paired members.

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213      34. An automatic machine for processing fruit comprising a fruit turret, fruit holding means spaced apart thereon and movable therewith including relatively movable members having means for holding a whole fruit therebetween, means for bobbing the fruit while so held, a second turret movable adjacent the first turret and including fruit holding means thereon, and movable in synchronism therewith, fruit transfer mechanism including means for bodily moving the whole fruit and transferring it to the fruit holding means of said second turret, means for

cutting the fruit in sections during its transfer from the loading means to the holding means of the second turret, and means for peeling the fruit so held in said second turret.

213 35. An automatic machine for processing whole fruit comprising a plurality of spaced holding means adapted to receive whole fruit one at a time and to hold the same substantially firmly, means for moving the holding means in an endless path, means for bobbing the stem ends while so held, means for bodily moving the bobbed fruit one at a time, means for dividing the fruit longitudinally as they are moved, means for holding each half fruit from turning about its stem axis, means for placing each half fruit on said second holding means, means for peeling each half fruit while so held, means for subsequently coring each half fruit and means for discharging the cored and peeled half fruit, and means for operating all of said means in substantially continuous synchronism.

256 37. A fruit treating apparatus comprising a frame having stations, a feed turret, means for intermittently moving said turret, fruit holding means upon said turret for conveying fruit, means on said frame for severing the stem bearing end from fruit in said holding means, a fruit carriage for abducting the stemmed fruit from said holding means, a second turret on said frame, means for intermittently moving said second turret, pairs of fruit holding means on said second turret and adapted to be conveyed from one of said stations to the next by a movement of the second turret, splitting means operatively associated with the fruit holding means of said second turret at one of said stations having separable parts entering the abducted fruit longitudinally thereof and adapted to deposit the separated portions of the split fruit into the holding means at said station, means for separating said parts, a peeling device at another of said stations and comprising

a blade movable through the fruit after the first movement of said turret, a coring device at still another of said stations and operable on fruit subsequent to the second movement of said turret to sever the core from the fruit and to lift the fruit from the fruit holding means of the second turret to leave the core and peeling therein, a cleaning mechanism at yet another of said stations and adapted to scavenge the core and peeling from said fruit holding means of the second turret after the further movement of said turret, still further movement of said turret conveying said fruit holding means of the second turret to the first-mentioned of the stations of this turret.

\* . . . \*

262      40. An automatic machine for preparing pears comprising an intermittently rotatable turret having a plurality of pear holding means, bobbing means disposed in the path of movement of the holding means and operable in succession upon the pears in said holding means as the turret moves, cutting means for severing a pear substantially in halves along its stem axis, pear conveying means receiving the bobbed pears from the holding means of the turret and including means for carrying each bobbed pear endwise across said severing means to halve the pear, coring means operable upon the cut face of the severed halves of each pear, and mechanism for actuating said turret, said conveying means and said coring means in synchronism.

\* . . . \*

264      42. In a fruit processing machine, a rotary turret carrying fruit supporting means, a splitting blade, means including a set of clamps for transferring fruit from said supporting means onto the splitting blade, means for rotating the turret to bring said fruit supporting means into and out of registration with said clamps, means for reciprocating said clamps in timed relation to the operation

of the turret, means for contracting and separating said clamps in timed relation to their reciprocated movements to cause them to grasp the fruit on said supporting means, carry the fruit onto the splitting blade and hereafter release the split fruit, and means for coring the split halves of fruit.

265      43. In a fruit preparation machine, a rotary turret provided with spaced fruit supporting means, each for holding a whole fruit, cutting means for bobbing the whole fruit while on said supporting means, a splitting blade, means including a set of clamps for transferring fruit from said supporting means in succession onto the splitting blade, means for rotating the turret intermittently to bring said fruit supporting means in succession into and out of registration with said clamps, means for reciprocating said clamps in timed relation to the intermittent movement of the turret, means for contracting and separating said clamps in timed relation to their reciprocative movements to cause them to grasp the fruit on the supporting means in registration therewith and carry the fruit onto the splitting blade and thereafter release the split fruit, and means for coring the split halves of fruit.

\* \* \* \* \*

267      45. In a fruit preparation machine, an intermittently operable turret having a plurality of spaced fruit supporting means, bobbing means operable in succession upon the fruit on said fruit supporting means, a splitting blade, fruit conveying means including a set of clamps for transferring fruit in succession from said supporting means onto the splitting blade, means for intermittently rotating the turret to bring said fruit supporting means in succession into and out of registration with said clamps, means for reciprocating said clamps in timed relation to the operation of the turret, means for contracting and separating said clamps in timed relation to their reciprocative



movements to cause them to grasp the fruit on the registering supporting means, to carry the fruit onto the splitting blade and thereafter release the split fruit, and coring mechanism operatively associated with said conveying means for coring the split halves of the fruit.

\* \* \* \* \*

260 —38. An automatic machine for preparing pears comprising a rotary turret having a plurality of pear holding means, bobbing means operable in succession upon the pears on said holding means for severing the necks of the pears transversely to the stem axes thereof, transfer mechanism cooperable with said turret for transferring the bobbed pears from the turret, a second turret including additional spaced holding means cooperable with the transfer mechanism to receive the pears from the transfer mechanism, means for moving said second turret and its holding means in synchronism with the first-mentioned turret and its holding means, paring and coring mechanism operatively associated with the path of movement of said additional holding means and mechanism for actuating said transfer mechanism and said paring and coring mechanism in timed relation to said turrets.—

261 —39. An automatic machine for preparing pears comprising an intermittently operating fruit turret having a plurality of pear holding means, each comprising relatively shiftable members, means relatively shifting said members in timed relation with the intermittent movements of the turret to hold and release a pear, bobbing means operable in succession upon the pears while held in said holding means, additional shiftable pear holding means, transfer mechanism cooperable with said turret for transferring the pears after bobbing to said additional holding means, means for intermittently operating said turret and shifting said additional holding means in synchronism, paring and coring mechanism mounted in the path of movement of said additional holding means, and mechanism for

actuating said transfer mechanism and said paring and coring mechanism in timed relation to the movements of said turret and said additional holding means.—

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263 —41. In an automatic pear processing machine, in combination with a support, a first turret mounted upon said support, means for intermittently rotating said turret, a plurality of spaced pear holders mounted on said turret, said holders comprising relatively movable members, actuating means synchronized with the movement of said turret for shifting said members relatively to grasp and hold a pear therein and thereafter to release said pear to permit the same to be moved from said fruit holder, pear bobbing means on said support and disposed in the path of movement of said first-mentioned turret and adapted to form a cut through the neck of the pear transversely to the stem axis of the pear while said pear is held in the fruit holder of the first turret, a second turret on said support and having a series of fruit holding means thereon, means for intermittently rotating said second turret in synchronism with said first turret, peeling mechanism operatively associated with said second turret to peel the pears while held thereon, and transfer mechanism associated with said first turret and adapted upon predetermined registration of the fruit holders of said first and second turrets to transfer the pear from the fruit holder of said first turret to the fruit holding means of said second turret.

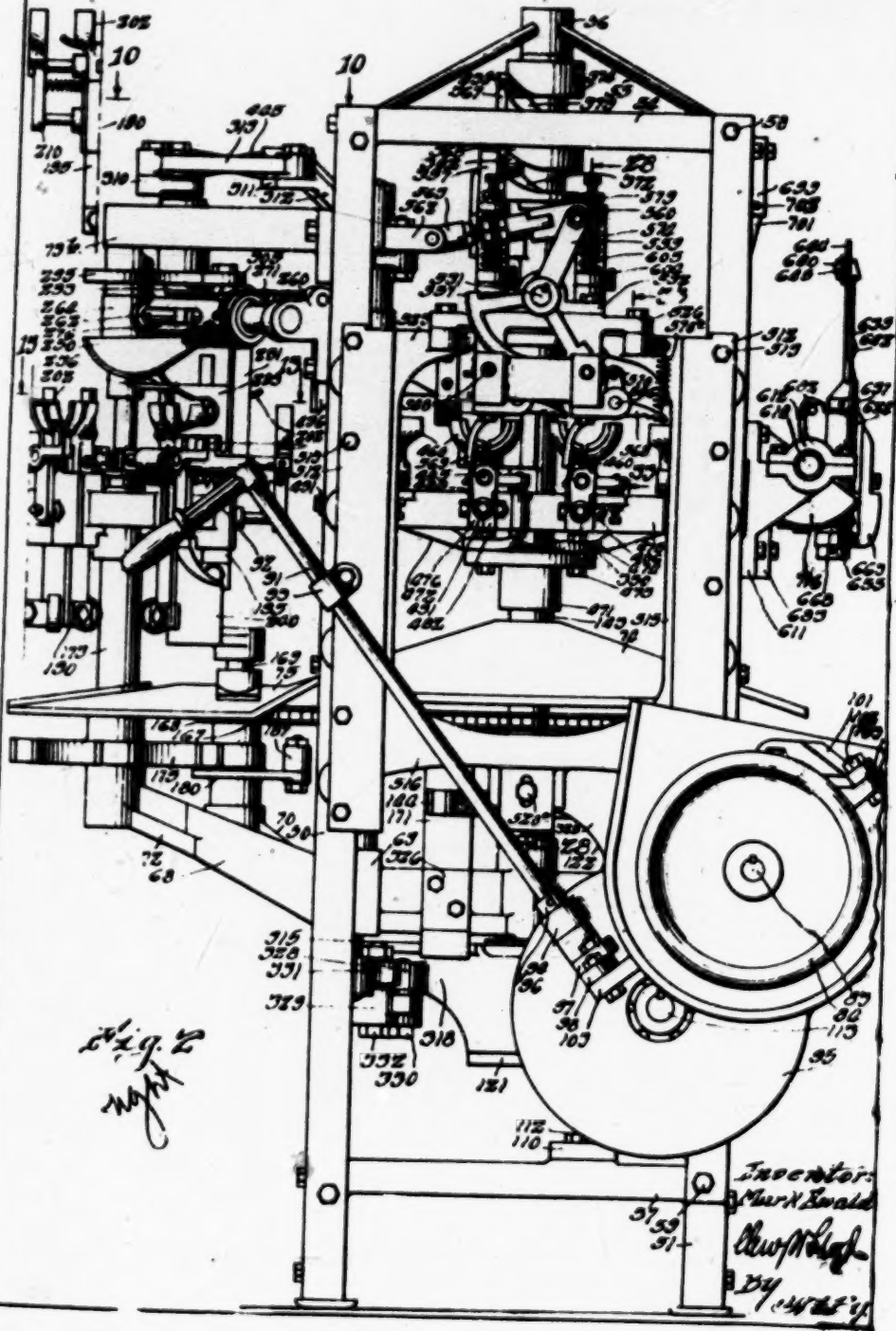
266 —44. In a fruit preparation machine, first and second rotary turrets, each provided with a plurality of spaced fruit holding members, means for intermittently operating said turrets in synchronism to a plurality of stations, the first turret at one of its stations receiving fruit on its fruit holding member at said station, bobbing means operable upon the fruit when the first turret is at a second station, means operable upon the fruit when the first turret is at a third station and the second turret is at one of

is stations for transferring the fruit from the fruit holding members of the first turret to the fruit holding members of the second turret, and mechanisms at subsequent stations of said second turret for paring and coring the fruit, and means for actuating said transferring means and said paring and coring mechanisms in timed relation to the movements of said turrets.—

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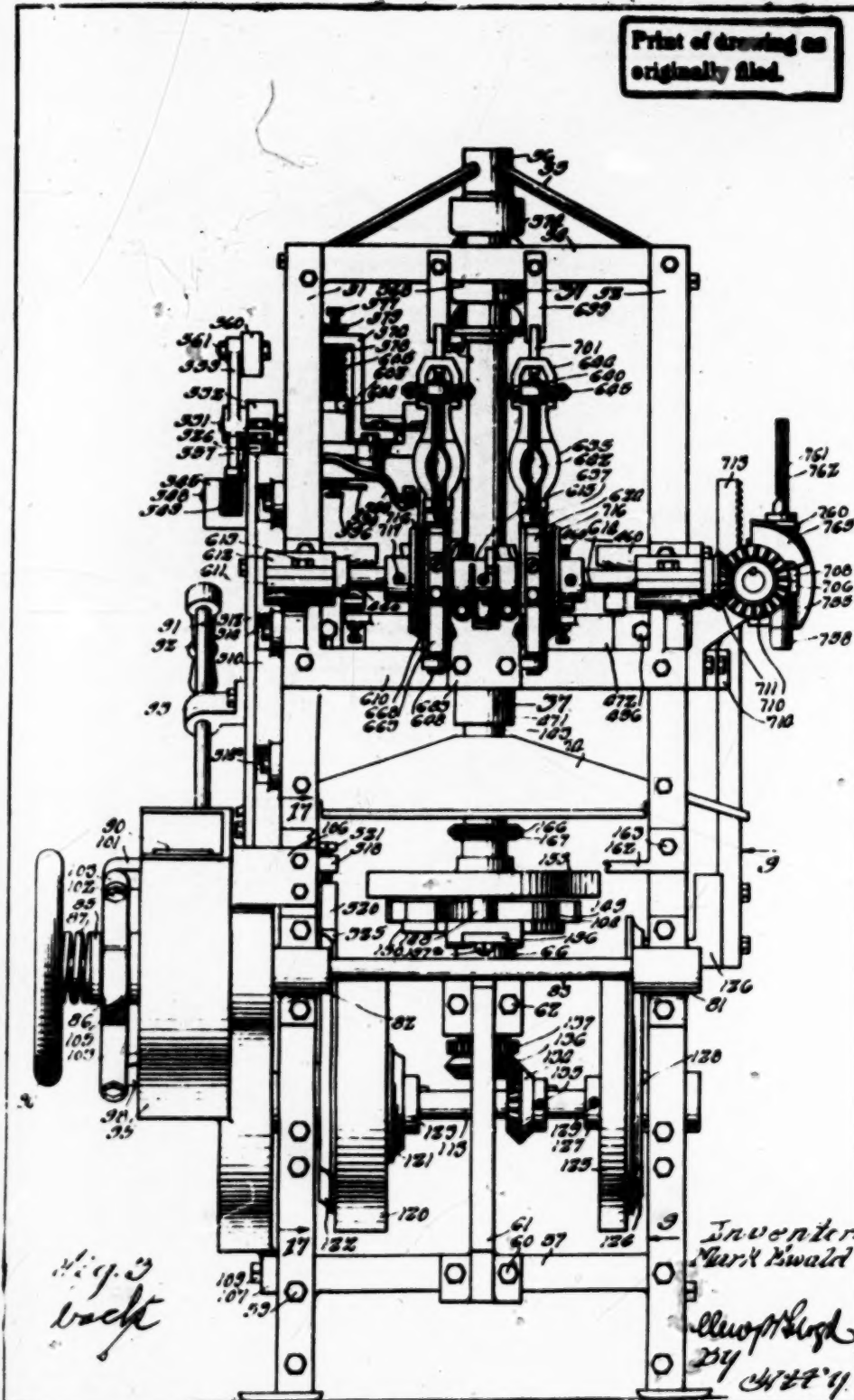


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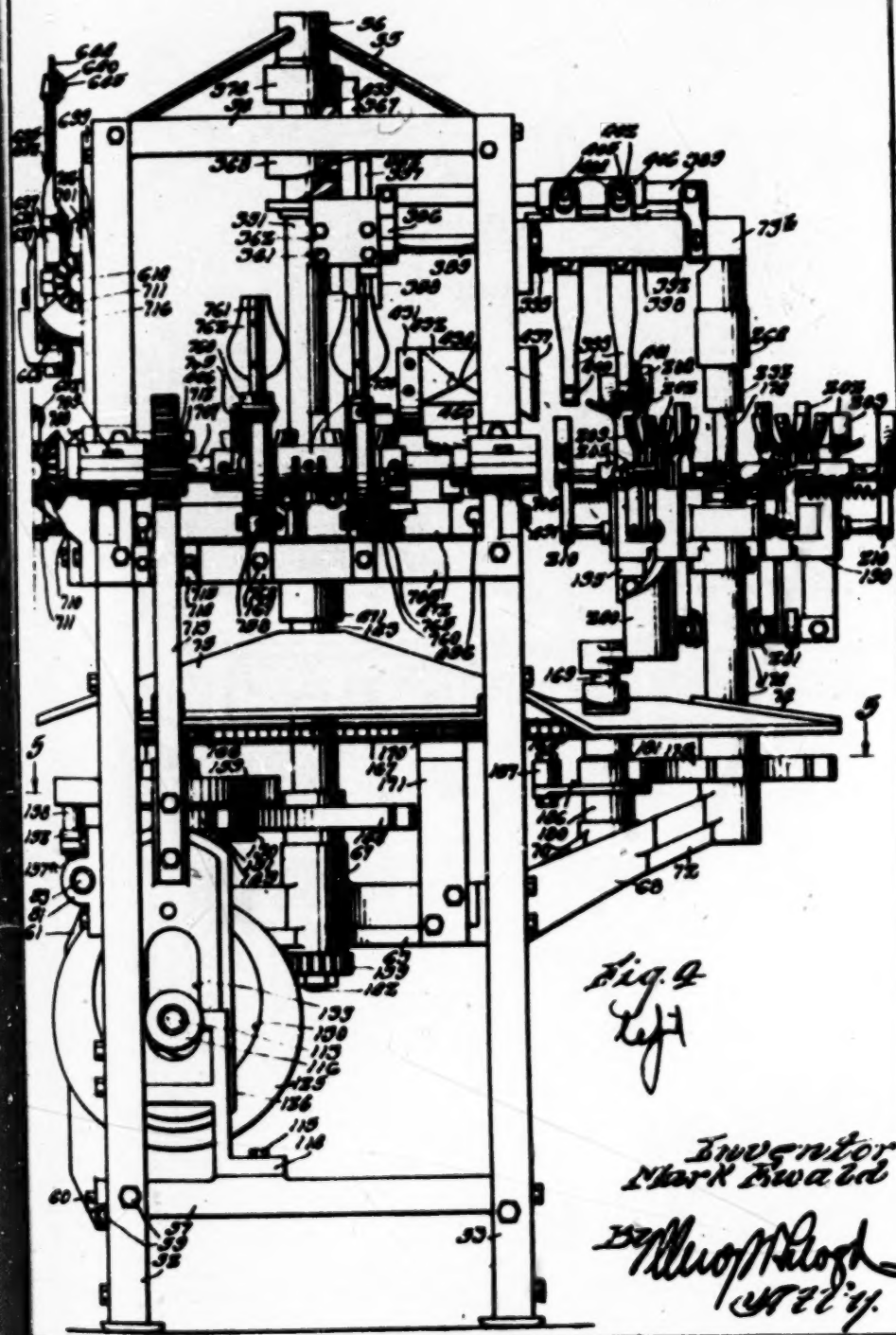
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Fig. 5

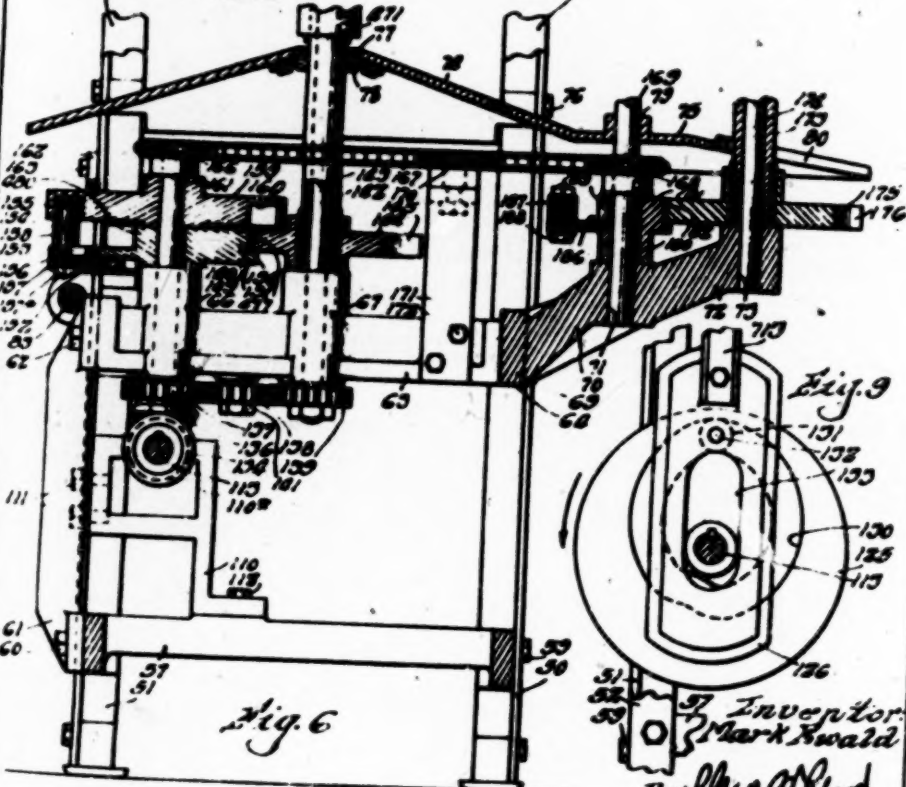
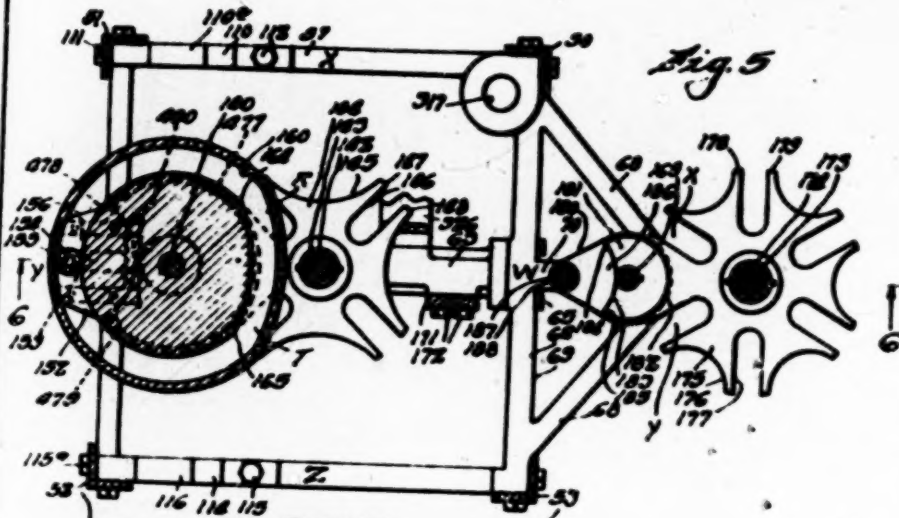
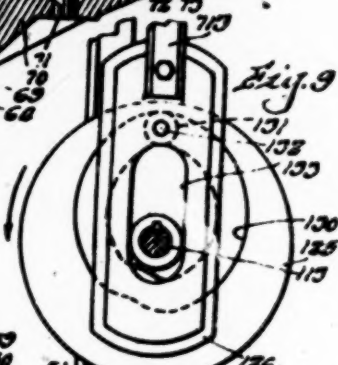


Fig. 6

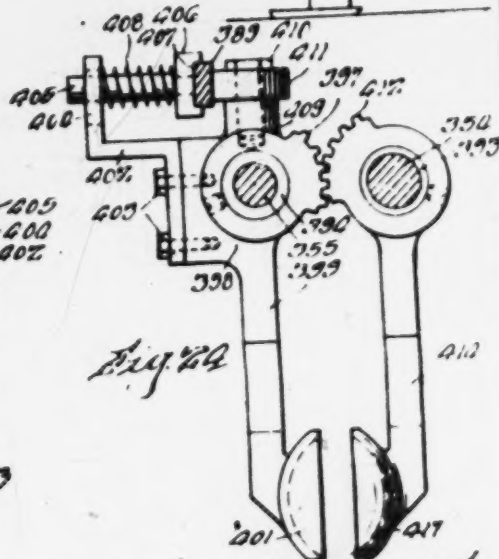
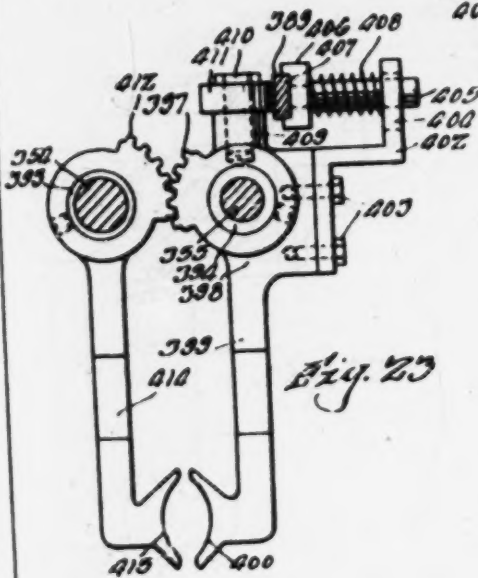
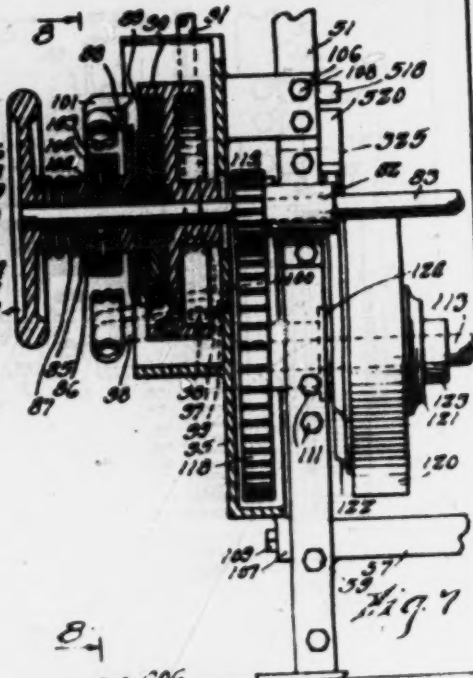
Fig. 9



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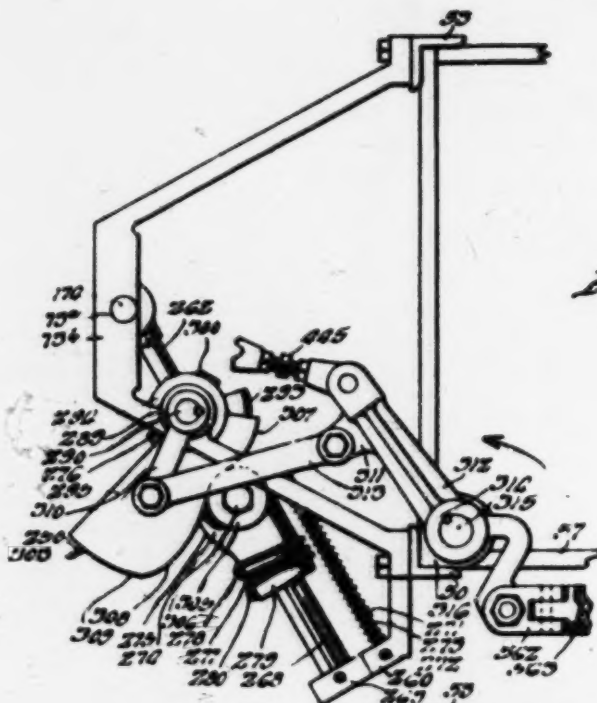


Fig. 10

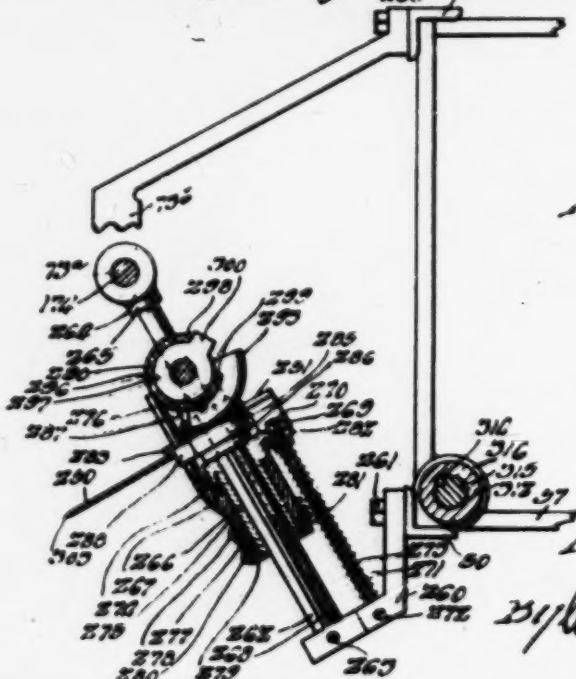


Fig. 11

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Fig. 12

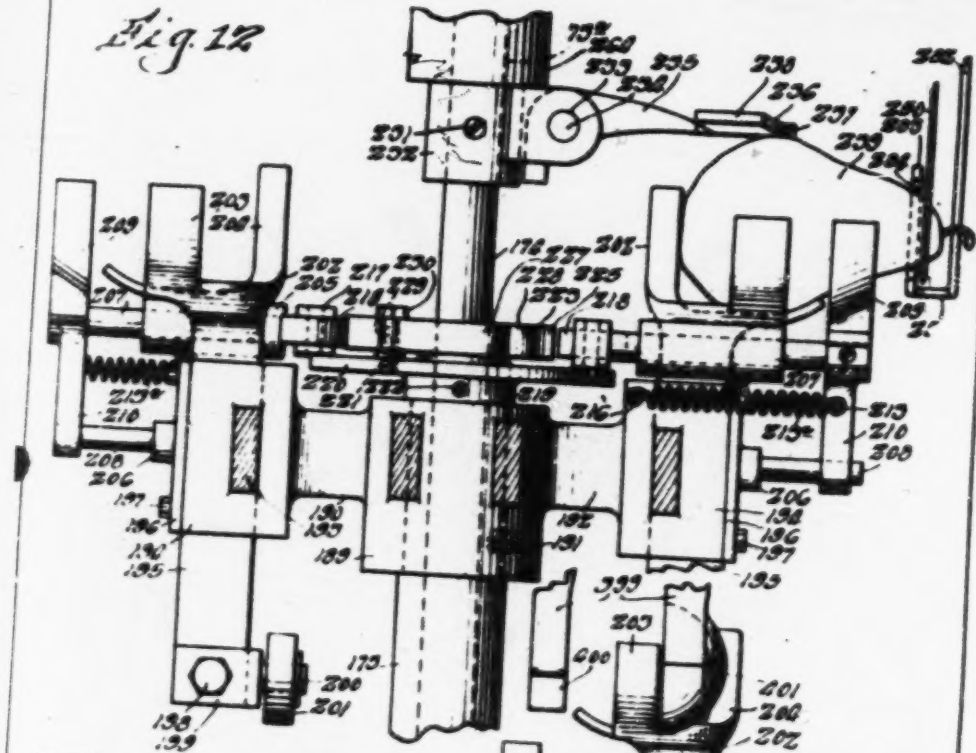


Fig. 14

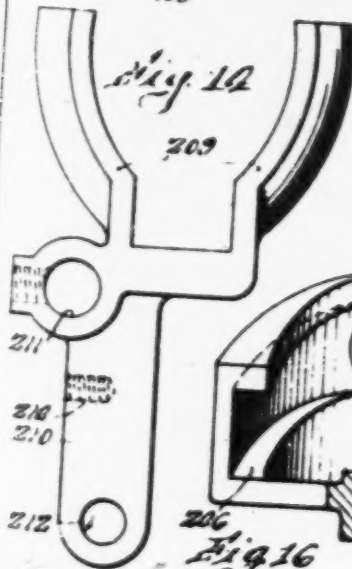


Fig. 16

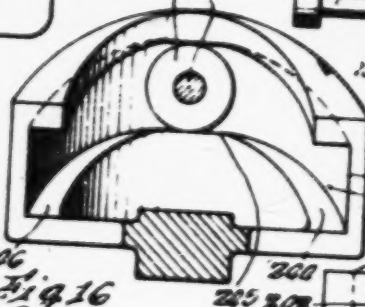
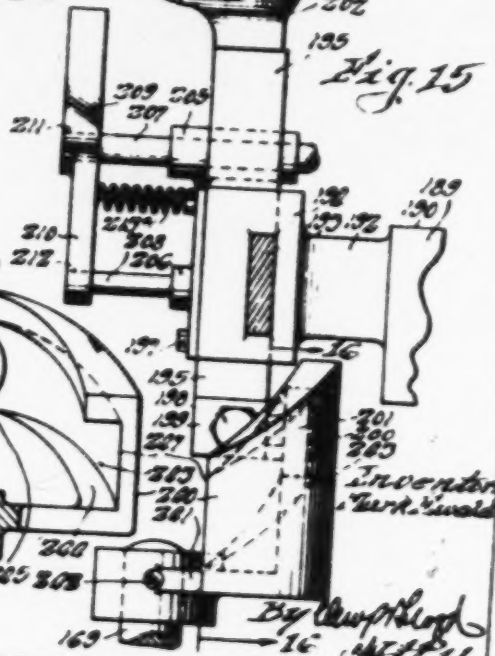


Fig. 15



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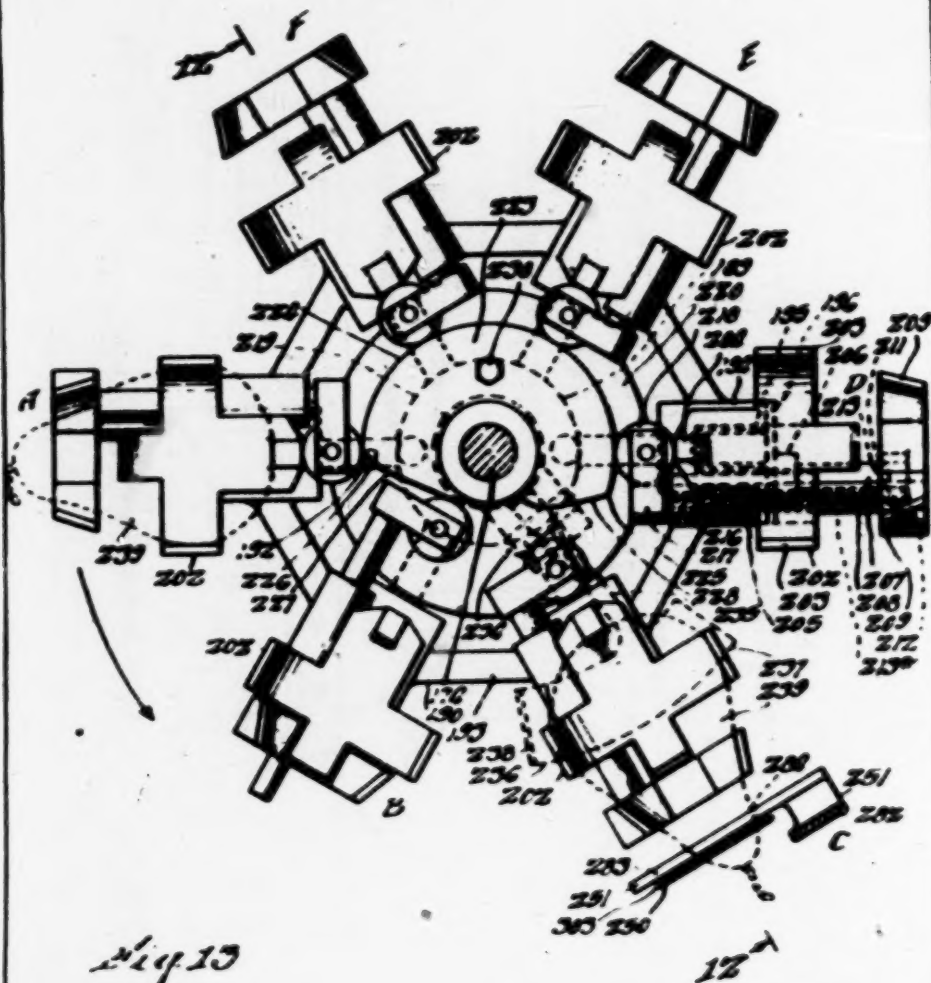


Fig. 10

Inventor:  
Mark Edward

By *Chas. H. Hough*  
ATTY.

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Print of drawing as  
originally filed.

Fig. 21

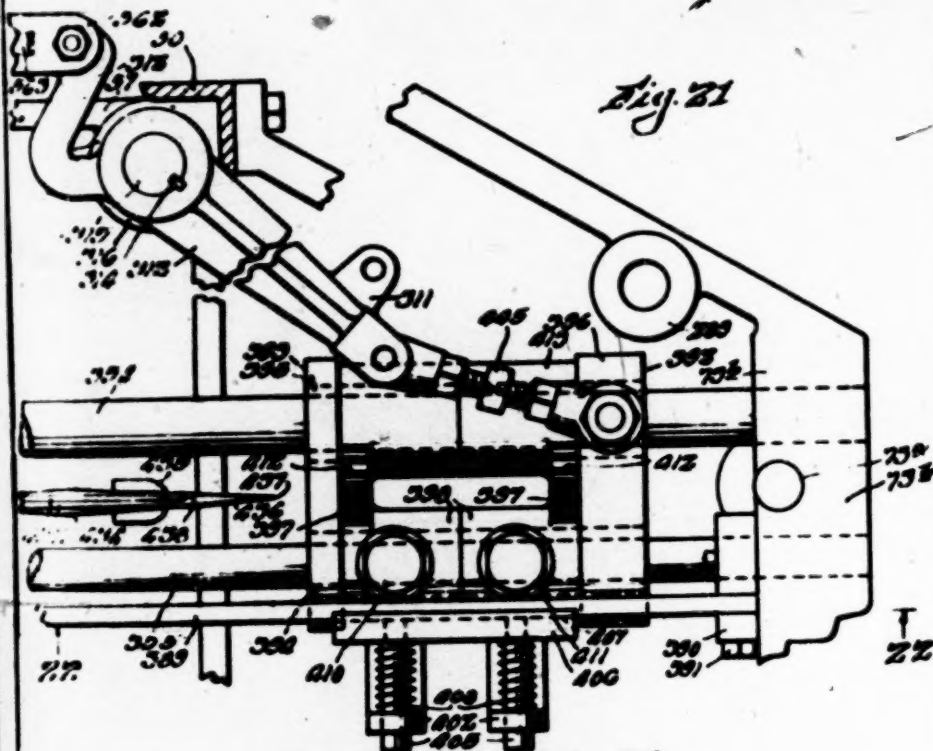
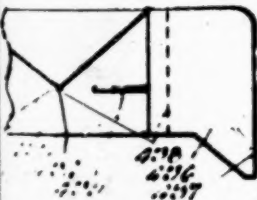
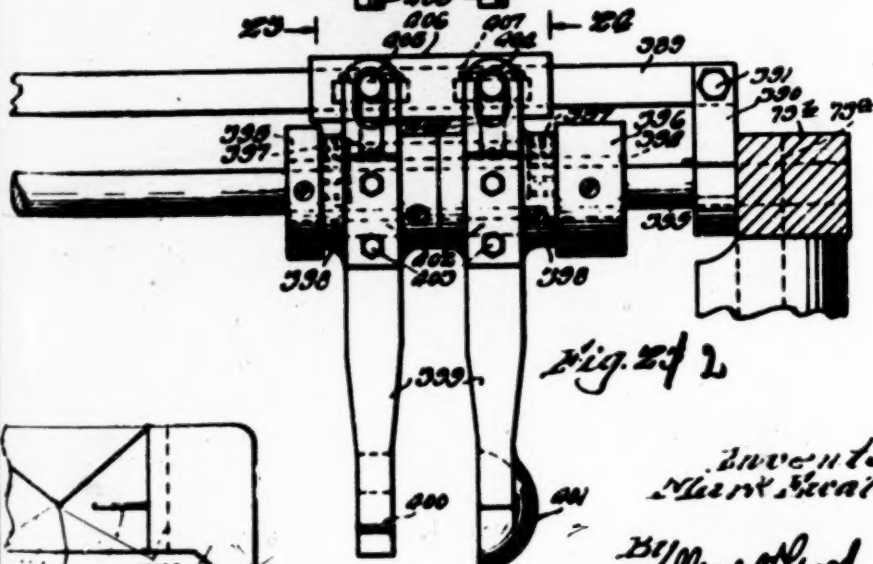


Fig. 22

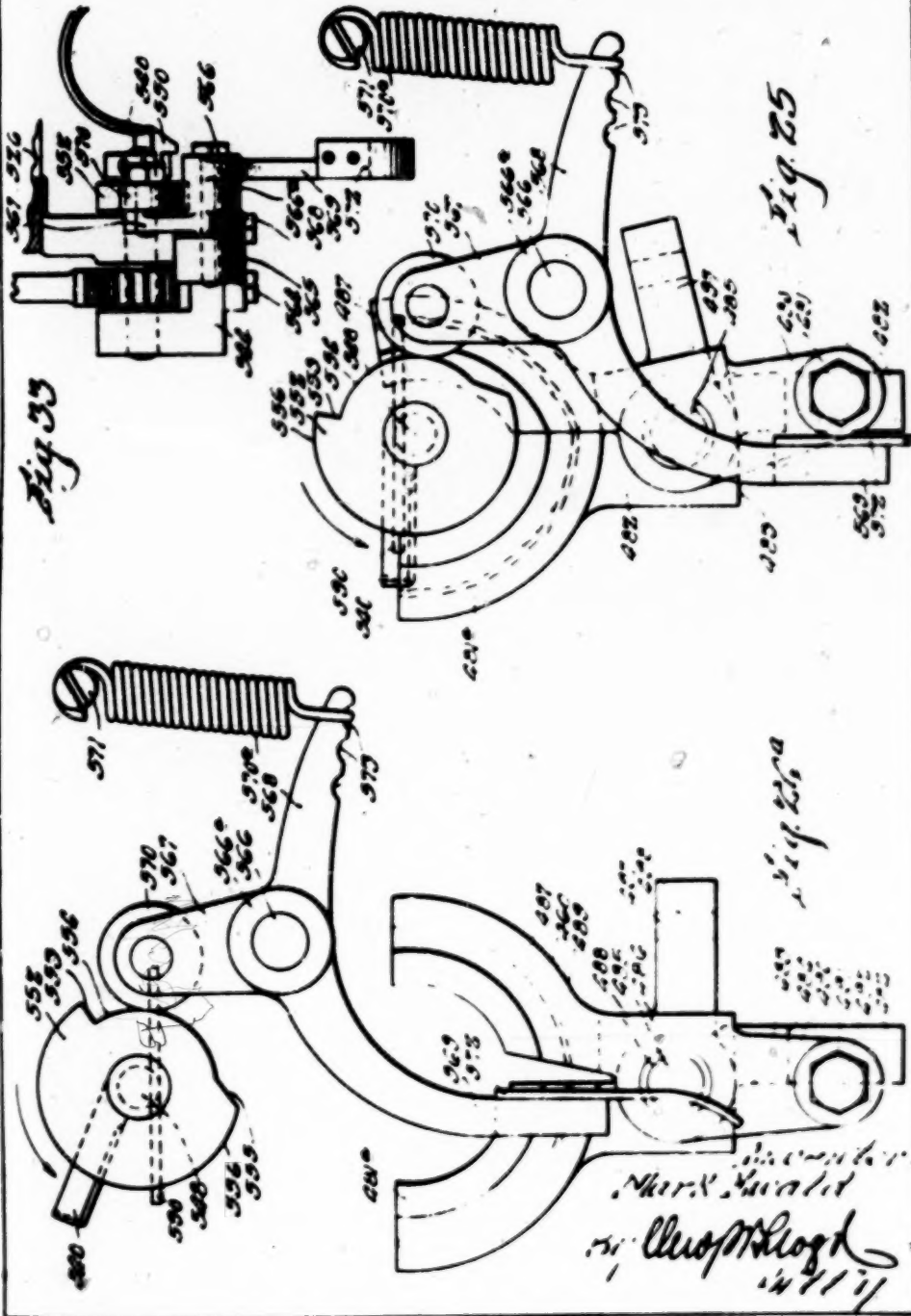


Inventor:  
Mark H. H. H.

By *Alfred H. H.*  
Attorney



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orig. fully filed.

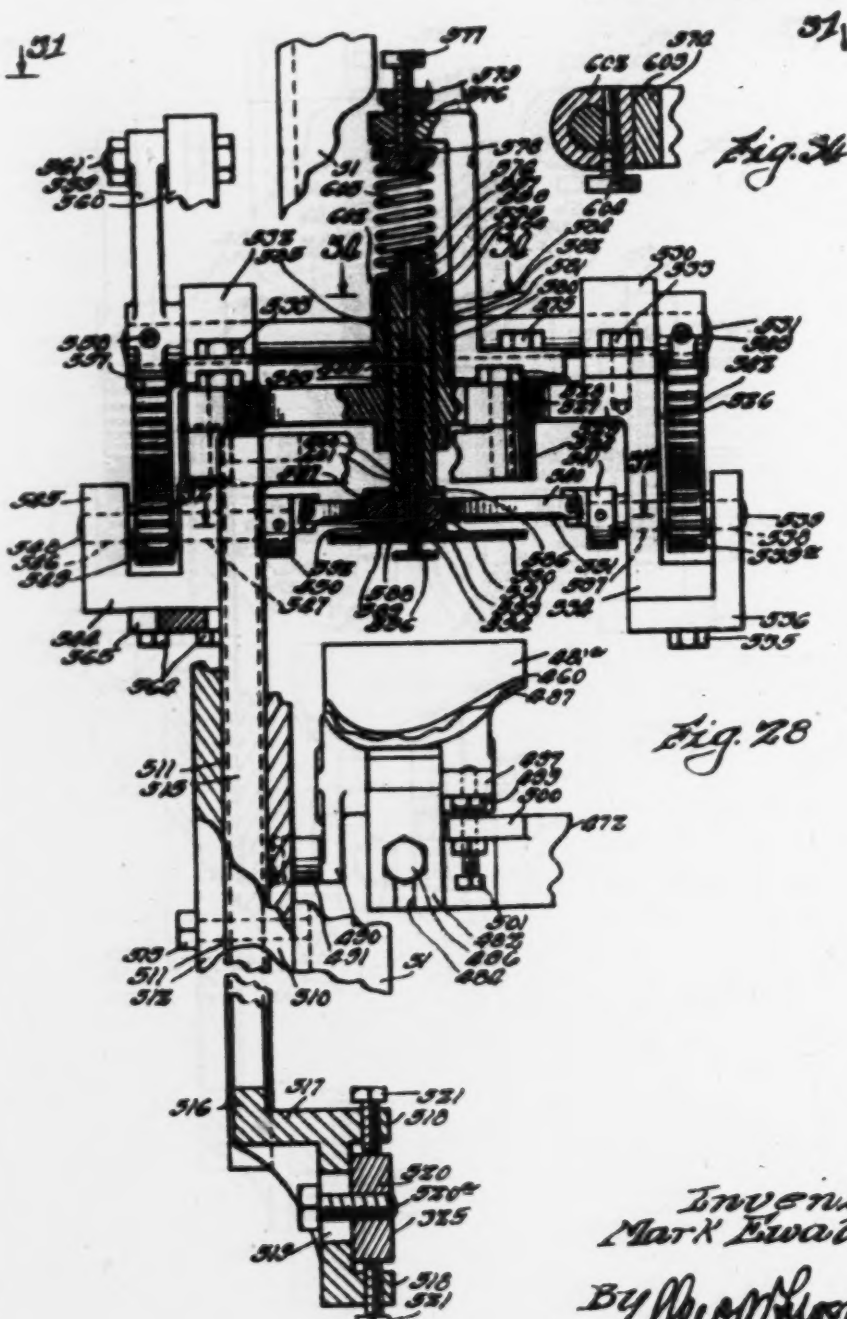


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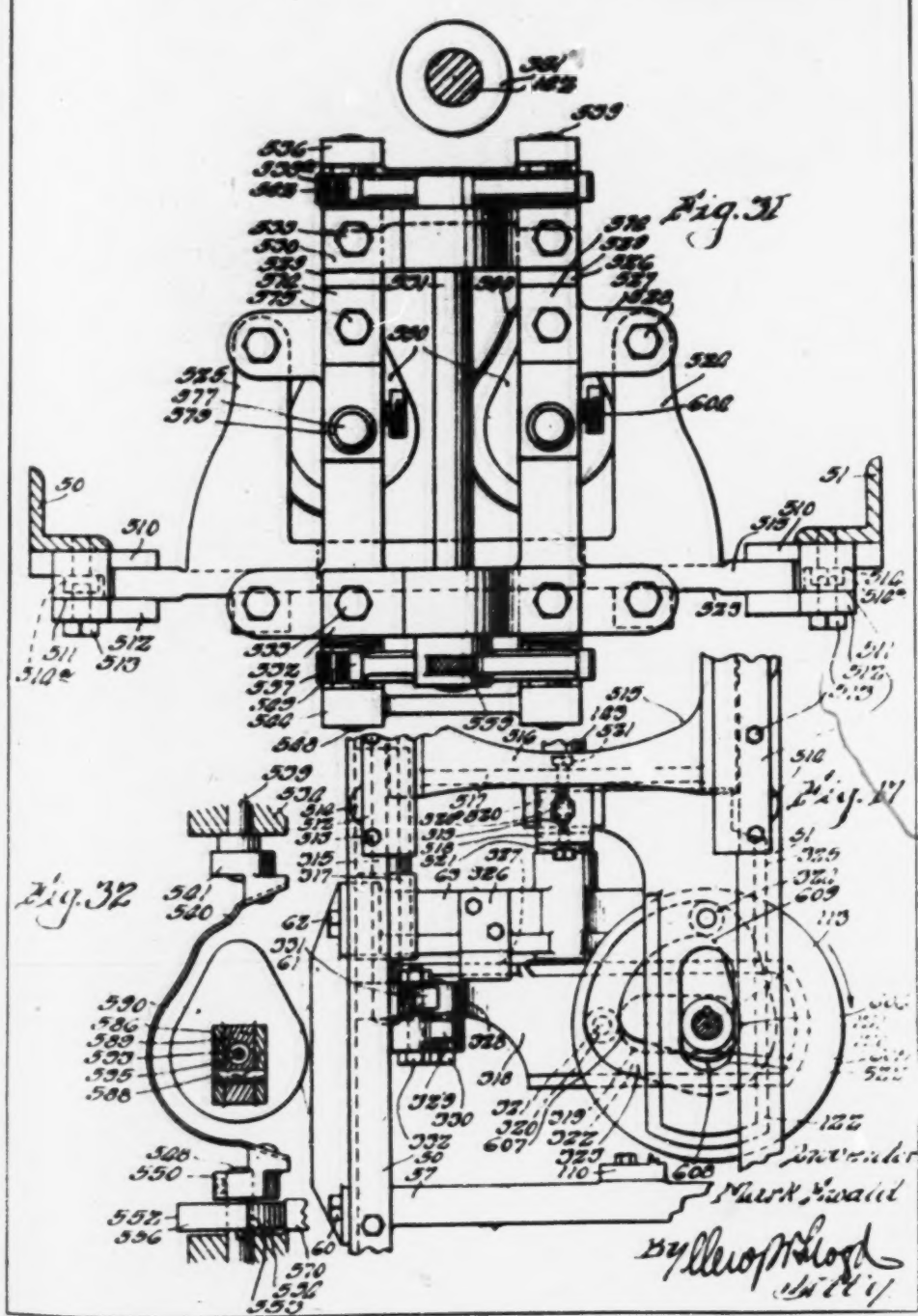


Inventor  
Mark Edward  
By *Alfred H. Lloyd*  
Att'y.

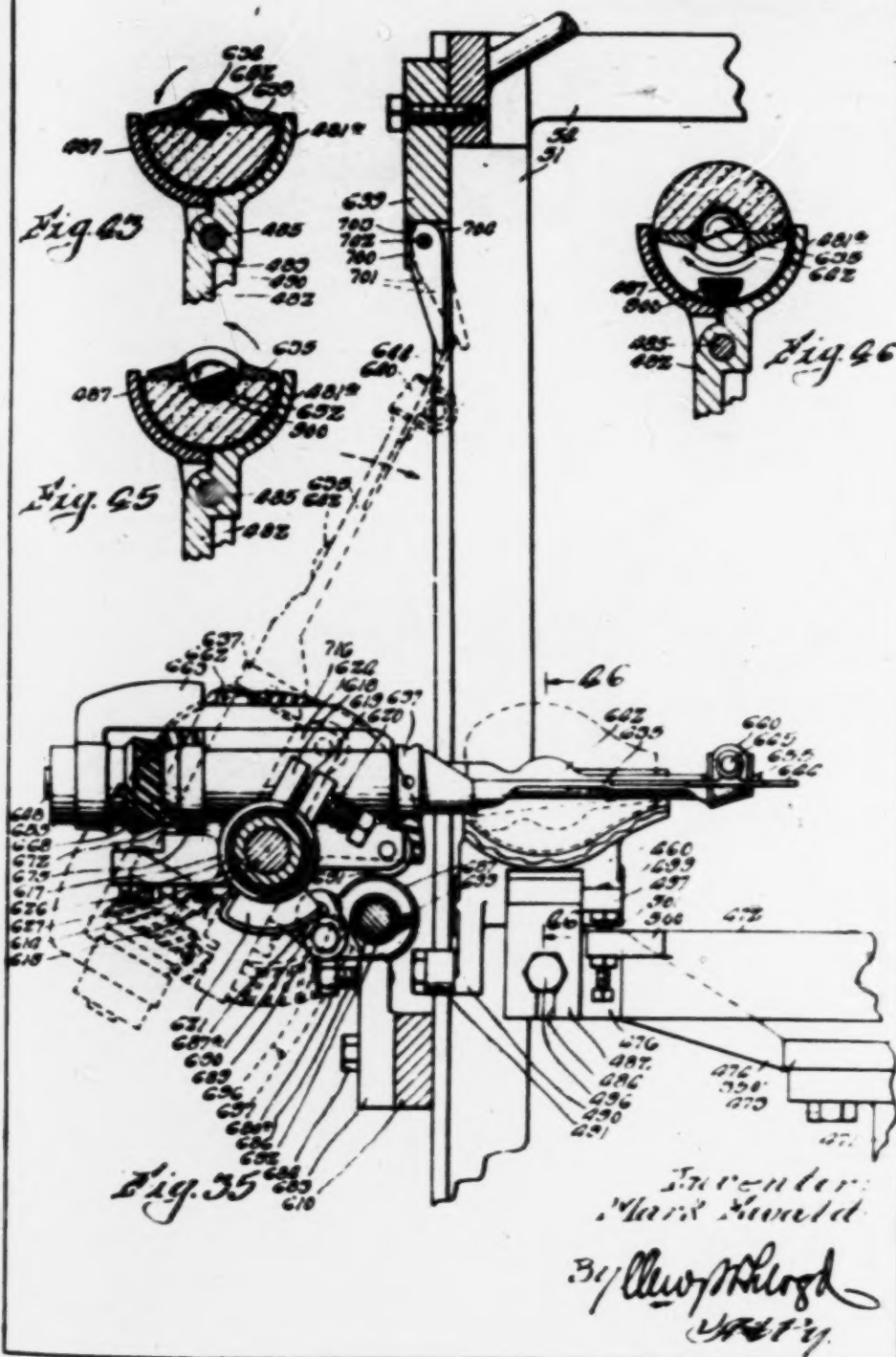
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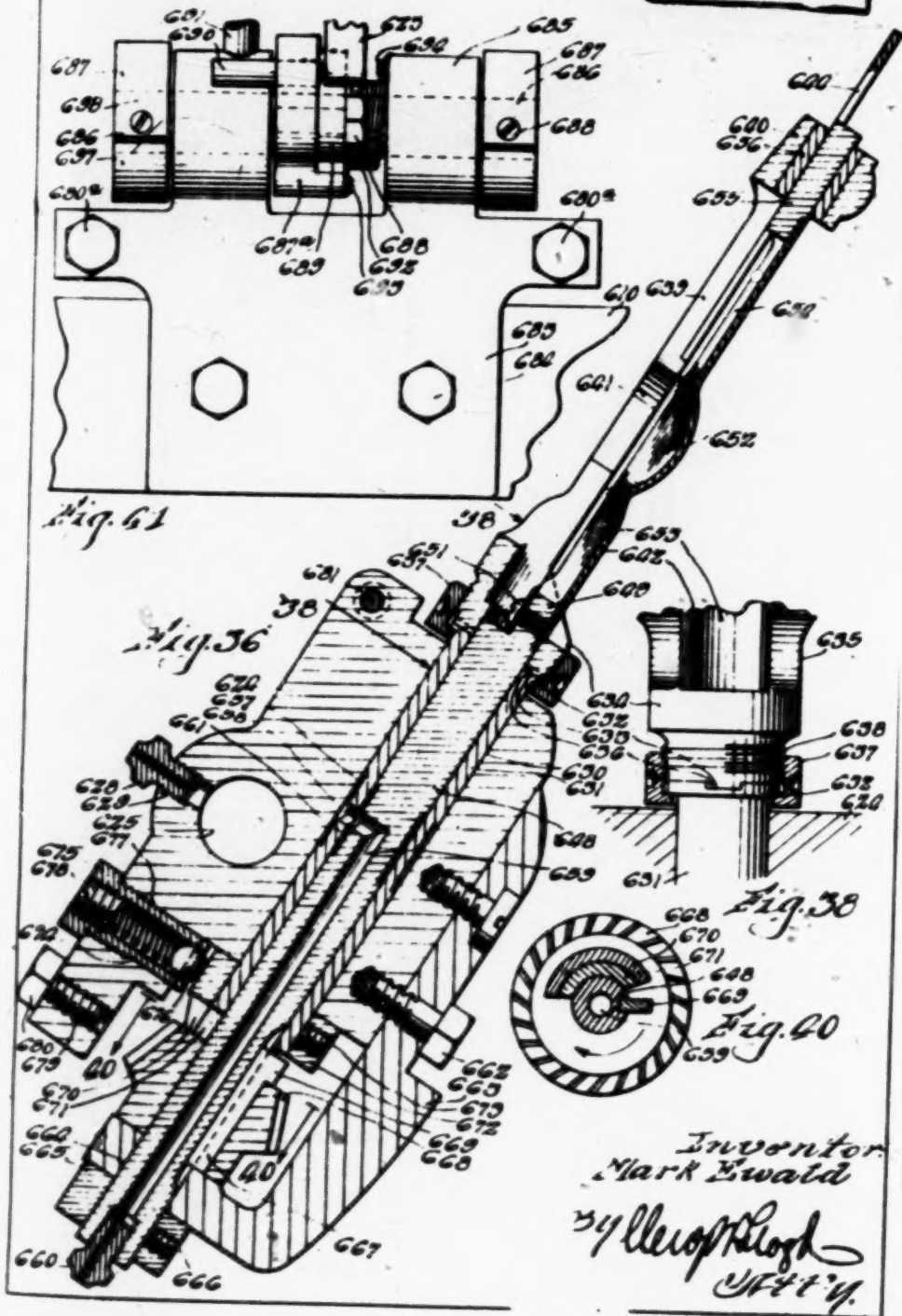


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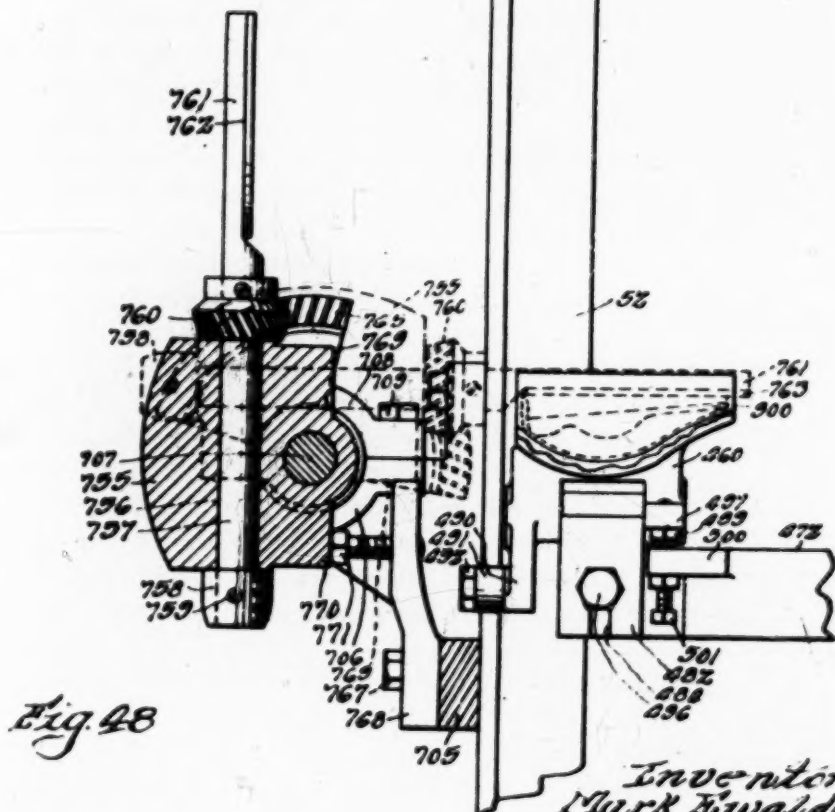
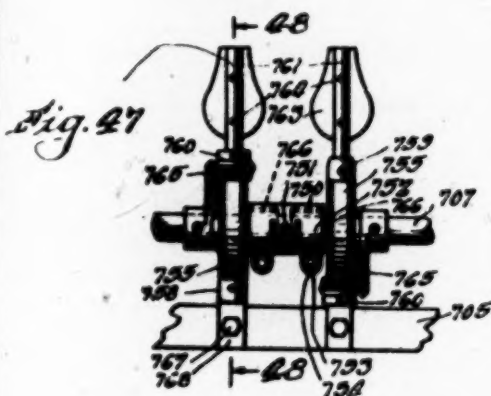






636447

Print of drawing as  
originally filed.



Inventor  
Mark Ewald

By *Leo H. Hough*  
Att'y.

180      Endorsed: Mail Division Apr - 9 34 U. S. Pat-  
ent Office

Endorsed: Patent Office Apr 10 1934 Division 33

In the United States Patent Office

Division 25—Room 5709

Mark Ewald

Serial No. 636,447

Filed October 6, 1932

For Pear Treating Apparatus

Commissioner of Patents:

*Amendment*

In response to the official communication of October 13, 1933, please make the following amendment in the above entitled application for letters patent:

In the specification:

Page 2, after line 11, change the amendment which reads "The following earlier applications of the applicant contain subject matter related to the present application and may be studied as a preview thereto:

"Application of Mark Ewald, of Serial number 621,857, filed July 11, 1932, for Bobbing Device;

"Application of Mark Ewald, serial number 621,914, filed July 11, 1932, for Feeding Mechanism for Fruit;

"Application of Mark Ewald, serial number 625,851, filed July 29, 1932, for Peeling Mechanism:

"Application of Mark Ewald, serial number 627,549, filed August 5, 1932, for Fruit Holding Cup; and

"Application of Mark Ewald, serial number 635,061, filed September 27, 1932, for Pear Treating Apparatus." to read:

—The following earlier applications of the applicant con-  
tain subject matter related to the present applica-  
tion:

—Application of Mark Ewald, serial number 621,857, filed July 11, 1932, for Bobbing Device, in which there are claims directed to the bobbing device of the present machine.

—Application of Mark Ewald, serial number 621,914, filed July 11, 1932, for Feeding Mechanism for Fruit, and in which application there are claims directed to a carriage having clamping members for engaging a fruit to conduct it inwardly of the present fruit treating machine. Other claims in this co-pending application are directed to the combination of said fruit carriage and the feed turret of the present machine.

—Application of Mark Ewald, serial number 625,851, filed July 29, 1932, for Peeling Mechanism, and in which there are claims directed to a reciprocable peeling mechanism including a fruit engaging pad and knock-out pad removably contained therein.

—Application of Mark Ewald, serial number 627,549, filed August 5, 1932, for Fruit Holding Cup, and in which application there are claims directed to the present type of grooved fruit holding cup.

—Application of Mark Ewald, serial number 635,061, filed September 27, 1932, for Pear Treating Apparatus, and in which there are claims directed to fruit coring means, fruit peeling means, and a grooved fruit holding cup.—

In the claims:

Claim 1, line 2, change “and adapted for intermittent” to—, means for moving said turret intermittently,  
paired

182 Line 3, delete “movement,”.

Same line, after “cups” insert—for half fruits—

Same line, delete “there being”.

Line 6, after the comma insert—a second turret to receive whole fruit,—

Same line, change “for feeding” to—for removing fruit from said second turret and feeding the split—

Line 7, change “cups” to—paired cups on said first turret—

Claim 2, line 1, after "frame" insert a comma.

Line 2, delete "having stations arranged thereabout,"

Line 3, change "and adapted for intermittent rotational movement," to—, means for moving said turret intermittently, paired fruit—

Cancel line 4.

Line 5, after "turret" insert a comma and delete "at such an interval to be".

Line 6, change the line to read—stations about said frame with which successive pairs of cups register, a second turret to receive whole fruit—

Line 7, delete "ment of said turret".

Line 8, after "stations" insert—for receiving fruit from said second turret and—

Same line, before "fruit" insert—such—

Line 10, change "carrying" to—conveying—

Line 11, change "separable parts" to—a cutting member and separable elements—

183 Same line, change "said" to—such—

Lines 13 and 14, cancel "incident to being separated".

Line 14, change "parts" to—elements—

Line 15, delete "peeling".

Same line, after "mechanism" insert—for severing the peeling from such fruit—

Same line, insert a comma after "stations" and delete "and".

Cancel lines 16 and 17.

Line 18, cancel "turret" and the comma.

Same line, change "coring device" to—device for severing the core from said fruit—

Cancel line 19.

Line 20, delete "ing the succeeding movement of said turret".

Lines 22 and 33, cancel "subsequent to a third movement of said turret."

Line 23, change "carried" to—advanced—

Line 24, delete "from the fourth station".

Line 25, change "a fourth" to—further—

Lines 25 and 26, cancel "preparatory to the reception of a different fruit".

Claim 3, line 1, insert a comma after "apparatus".

Line 2, change "of" to—with—

Same line, after the comma insert—of—

Line 3, delete "bobbing" and after "device" insert—  
for bobbing the stem end from a fruit held by said conducting means—

Cancel line 4.

184 Line 5, cancel "by said conducting means", and cancel "adapted to"

Line 6, change "abduct" to—for abducting—

Line 7, change "toward" to—and conveying it to—

Line 8, after "frame" insert—, means for intermittently moving said turret—

Lines 8 and 9, delete "adapted for intermittent movement, means for imparting such movement to said turret".

Lines 10 and 11, cancel "at an interval corresponding to the interval of said stations".

Line 14, change "divisible" to—separable—

Line 15, cancel "said".

Line 16, change "dividing" to—separating—

Same line, change "they have" to—entry into—

Line 17, cancel "entered" and "pursuant".

Same line, change "depositing" to—deposit—

Same line, change "divided" to—split—

Line 18, change "the", second occurrence, to—said—

Line 19, cancel "peeling".

Same line, after "mechanism" insert—for severing the peel from such fruit—

Same line, cancel "and"

Cancel lines 20 and 21.

Line 22, change "coring device" to—a device to sever the core from said fruit—and delete "and adapted".

185 Cancel line 23 and "ing movement of said turret" in line 24.

Lines 26 and 27, cancel "subsequent to a third movement of said turret".

Line 27, change "carried" to—conveyed—

Line 28, delete "a".

Line 29, change "fourth" to—further—

Lines 29 and 30, cancel "preparatory to the reception of a different fruit".

Claim 4, line 1, change "In combination in a" to —A—

Line 2, change the first comma to —comprising—

Same line, change "adapted" to—, means for intermittently moving said turret,—

Cancel line 3 and "movement to said turret," in line 4.

Line 5, change "carrying" to—conveying—

Line 6, cancel "said"

Line 7, change "while held by one of" to —in—

Lines 8 and 9, cancel "inwardly of said frame".

Line 9, before "turret" insert—second—

Same line, after "frame" insert a comma and delete "and adapted for".

Line 10, cancel "intermittent rotative movement,"

Same line, change "effecting" to—intermittently moving said second—

186 Line 11, cancel "such movement to said".

Line 12, before "turret" insert—second—

Lines 12 and 13, cancel "at space intervals equal to the intervals between said stations".

Line 14, change "transferred" to—conveyed—

Line 15, change "secondly named" to —second—

Line 16, cancel "said".

Line 17, change "dividable" to—separable—

Line 18, delete "disposed for" and "said inwardly".

Line 20, change "divided" to—separated—

Same line, change "said" to—the split—

Line 21, cancel "when divided" and change "dividing" to—separating—

Line 23, cancel "adapted to be passed beneath".

Line 24, change "the peeling of" to—movable through—

Line 26, change "to operate on said" to—and operable on—

Line 27, change "and adapted" to—of said turret—and cancel "of said".

Line 28, cancel "turret".

Line 29, change "in a manner leaving" to—to leave—

Line 32, correct the spelling of "third".

Line 33, change "replacing" to—conveying—

Line 34, change "at" to—to—

Add the following new claims:

187 —5. In combination, successive fruit receptacles in which fruit is treated, a loading device therefor and comprising a series of fruit holding members, and means for transferring fruit from said holding members to said successive fruit receptacles.—

—6. In combination, successive fruit receptacles in which fruit is treated, a loading device comprising a series of holding members, reciprocable transfer means, between said holding members and said receptacles, and means for moving said holding members, transfer means, and receptacles in synchronism.—

—7. In combination, a series of holding members for whole fruit, a transfer means comprising a splitting device, a series of paired receptacles for the halves of fruit, and means for actuating said members, transfer means, and receptacles in synchronism.—

—8. In combination, a turret having a series of means for holding whole fruit, a second turret having a series of means for holding half fruit, and a conveying means between said holding means for whole fruit for splitting the whole fruit and transferring the halves to the holding means for the half fruit.—

—9. In combination, a turret having receptacles for whole fruit spaced thereabout, a second turret having paired cups for half fruit spaced thereon, and a reciprocable conveyor between said first turret and said second turret for receiving the whole fruit from the first turret, splitting such fruit, and depositing the halves in the cups on the second turret.—



—10. In combination, a fruit treating means comprising a turret having cups for half fruit spaced there-  
 188 about, a loading device comprising a turret having **receptacles** for whole fruit spaced thereabout, and a transfer means between said turrets, comprising a fruit conveying member, a fruit splitting member and a fruit spreading member.—

—11. A fruit treating machine comprising a turret having fruit receiving cups thereabout, said turret having a vertical axis and registering with a fruit treating device, a second turret having fruit holding cups thereabout, said second turret also having a vertical axis and registering with a fruit treating device, a linear conveyor between said turrets, and means for actuating said turrets and conveyor to move fruit from the second turret to the first.—

—12. Fruit treating apparatus comprising paired turrets, and a reciprocating conveyor for transferring fruit from one of said turrets to the other thereof.—

—13. Fruit treating apparatus comprising paired turrets, a reciprocating conveyor therebetween, means for loading fruit from one turret into said conveyor at one end of its reciprocation, and means for discharging such fruit into the other turret at the other limit of the reciprocation of said conveyor.—

—14. In combination, a loading turret for whole fruit, elevating means for lifting such whole fruit therefrom, bobbing means operable on fruit in said loading means, reciprocable conveying means for gripping the elevated whole fruit, fruit splitting means operable on the fruit in said conveyor, and a second turret having cups to receive the elevated fruit.—

189 —15. A fruit treating machine having a series of fruit receiving receptacles movable in a horizontal plane, a second series of fruit cups also movable in a horizontal plane and displaceable to a higher plane, a device for transferring fruit from said series of cups to said receptacles, means for successively displacing said cups from the

first plane to such elevated plane for cooperative registry with said fruit transferring means, a bobbing device operable upon fruit in said cups, and means for actuating said cups, receptacles, cup displacing means, transferring device and bobbing device in synchronism.—

—16. In combination, a loading turret for whole fruit, a bobbing device operable on fruit in said turret, a conveyor device for discharging the fruit therefrom, and a second turret to receive the fruit from said conveyor device.—

—17. In combination, a loading turret for whole fruit, a second turret adjacent said loading turret, a bobbing device and a conveyor between said turrets, means for discharging the fruit from the first conveyor into the conveyor, and means for discharging such fruit from the conveyor into the second turret.—

—18. In combination, a loading turret, members for receiving whole fruit in said turret, a member for bobbing the ends of fruit in juxtaposition to said turret, a second turret, members for receiving half fruit on said second turret, a splitting member between said turrets, a conveyor for advancing fruit from the first turret past said splitting device and into said cups, and means for actuating said several turrets, conveyor and members in synchronism  
190 to bob and split fruit.

—19. In combination, a loading turret having members each for receiving a whole fruit, a knife for bobbing the end of fruit in said members and in the path of such fruit as said turret is rotated, a second turret having paired members for receiving half fruit on said second turret, a splitting knife intermediate said turrets, a conveyor for receiving fruit from the members on said first turret conveying it past said splitting knife, and depositing the halves thereof into said paired members on said second turret knives for peeling the half fruit in said paired members, and means for actuating said several turrets, conveyor and knives in synchronism to bob, split and peel the fruit.—

—20. In combination, a loading turret having members each for receiving a whole fruit, a knife for bobbing the end of fruit in said members and in the path of such fruit as said turret is rotated, a second turret having paired members for receiving half fruit, a splitting knife intermediate said turrets, a conveyor for receiving fruit from the first turret, conveying it past said splitting knife and depositing the halves thereof into said knives for peeling the half fruit in said paired members on said second turret members, knives for removing the paired core from the half fruit in said paired members, and means for actuating said several turrets, conveyor and knives in synchronism to bob, split, peel and core fruit.—

—21. In combination, a loading turret having members for receiving whole fruit, a knife for bobbing the end of fruit in said members and in the path of such fruit as said turret is rotated, a second turret having paired members for receiving half fruit, a splitting knife intermediate said turrets, a conveyor for receiving fruit from the first turret,

conveying it past said splitting knife and depositing  
191 it into said paired members knives for peeling the  
half fruit in said desired members, other knives for removing the core from the half fruit in said paired members, members for discharging the peeled and cored half fruit from said paired members, and means for actuating said several turrets, conveyor knives and members in synchronism to bob, split, peel and core fruit and to discharge the peeled and cored fruit from said paired members.—

—22. In combination, a loading turret having members for receiving whole fruit a member knife for, bobbing the end of fruit in said members and in the path of such fruit as said turret is rotated, a second turret having paired members for receiving half fruit, a splitting knife intermediate said turrets, a conveyor for receiving fruit from the first turret, conveying it past said splitting knife, and depositing it into said paired members, knives for peeling the half fruit in said paired members, other knives for removing the

core from the half fruit in said paired members, members for discharging the peeled and cored half fruit from said paired members, members for scavenging the paired members after the peeled and cored half fruit is discharged therefrom, and means for actuating said several turrets, knives conveyor and members in synchronism to bob, split, peel and core fruit, to discharge the peeled and cored half fruit from said paired members and to thereafter scavenge said paired members.—

### *Remarks*

Claim 1, as amended, avoids Reynolds by the inclusion of the loading turret, and by definitely defining the cups as receptacles for half fruits.

192      Claim 2 is amended to distinguish over Eldridge, Reynolds and Ewald by the addition thereto of the loading turret, and by defining the splitting and spreading member which is unlike Eldridge. Applicant splits the fruit and inserts the spreaders as the fruit is being split. Eldridge has separated the splitting blade and spreaders.

Allowed claim 3 is amended to render it free of unnecessary language.

Claim 4, an allowed claim, is amended to correct a grammatical error and to reduce the number of words contained therein.

The objections to the amendment to the specification previously made are corrected by the deletion of the objected to matter and a restatement of the material in an approved form.

Claims 5 to 22, inclusive, are new.

Claim 5 is directed to successive cups in two series, and a transfer means therebetween.

Claim 6 is like claim 5 with a limitation of "reciprocable" on the transfer means.

In claim 7, the transfer means is defined as a splitting device.

In claim 8, the combination is about the same as in claim 7, with the addition of an element which causes the spilt fruit to be deposited in the second series of cups.

Claim 9 is limited to turrets and a conveyor therebetween, the latter being a splitting mechanism.

Claim 10 includes the spreading member.

193 Claim 11 is limited to a device in which each turret has a vertical axis.

In claim 12, the turrets and reciprocating conveyor are claimed in their broadest sense.

Claim 13 is like claim 12 but the parts are more specifically defined.

In claim 14, the bobbing device between the turrets becomes an element.

Claim 15 includes cup elevating means and specific descriptions of the cooperation of the parts.

In claim 16, the turrets, conveyor and bobbing device are broadly set out.

Claim 17 is like claim 16 with an element added.

Claims 18 to 22 are combinations of turrets, a bobbing device, and a splitting device, claim 18 being of the broadest nature, and the succeeding claims each adding a part and a function. Claim 19 adds the peeling step; claim 20 the coring step; claim 21 the fruit discharging step; and claim 22 the cup scavenging step.

Favorable action appears to be in order.

Very Respectfully,

HENRY W. FLOYD

*Solicitor for Applicant.*

Chicago, Illinois

April 7, 1934

\* . . . . \*

222      Endorsed: Patent Office Division 25 Jun 23 1936  
             In the United States Patent Office

Division 25   Room 5709

Mark Ewald   Serial Number 636,447   Filed October 6, 1932  
                  Pear Treating Apparatus

To the Commissioner of Patents:

*Amendment*

In response to the official action of December 23, 1935, kindly amend the above identified application for Letters Patent as follows:

Change the title to—Fruit Treating Apparatus—.

In the Specification:

Page 69, after the last paragraph, insert the following:

—The claims of the present case are limited to combination claims of the various operations performed upon fruit including specifically the combination of two synchronously moving turrets, the transfer mechanism and the various operations to be performed upon the fruit as it moves sequentially from the first turret mechanism to the transfer mechanism and to the second turret mechanism. The claims herein are not drawn specifically to the various operations per se since such claims are reserved for claiming in the other applications herein specifically enumerated.—

In the Claims:

223      Cancel claims 23, 26, 27, 33 and 36.

Claim 32, line 2, cancel "loading mechanism" and substitute—a fruit turret—,

line 5, after "mechanism" insert—cooperable with said turret—,

line 7, after "bobbed" insert—, a second turret—

line 9, after "additional" insert—turret and its—,

line 11, after "mentioned" insert—turret and its—; correct the spelling of "pairing" to—paring—,

line 13, after "actuating" insert—said turrets, said transfer mechanism, and—; correct the spelling of "pairing" to—paring—.

line 14, cancel "with the movement".

Claim 34, next to last line, after "turret" insert—, means for cutting the pear in sections during its transfer from the loading means to the holding means of the second turret,—.

In the amendment of November 18, 1935, page 7, cancel the first paragraph; cancel the third paragraph beginning "In a similar manner" and ending with line 6 on page 8.

224

*Remarks*

Claims 23, 26, 27, 33, and 36 have been cancelled.

New claim 32 has been amended to avoid the references cited by the inclusion of the first and second turrets, the associated and cooperating transfer mechanism, and the splitting mechanism, thereby distinguishing from applicant's prior patent and specifically claim 1 thereof cited by the Examiner.

In a similar manner, claim 34 has been amended to distinguish from MacDougall, which now includes the halving operation between the first and second turret which is not present in MacDougall.

In regard to the deletion of portions of pages 7 and 8 in the remarks of the amendment of November 18, 1935, applicant wishes to correct an inadvertence therein included to the effect that any mechanism for handling peaches is completely inoperative for the processing of pears. In certain instances this is true. However, in other instances the statement is entirely too broad. It all depends upon the condition of the peach and the condition of the pear and the operation to be performed thereon. It is, therefore, understood that this broad statement is deleted from the record of this case.

Allowance of this application is asked.

Respectfully submitted,

COX & MOORE

*Solicitors for Applicant*

Chicago, Illinois

June 20, 1936

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253      Endorsed: Mailed Oct. 27 1938

Div. 25 Room 5709 c  
Serial No. 636,447

Department of Commerce  
United States Patent Office  
Washington

Cox & Moore  
135 S. LaSalle Street  
Chicago, Illinois

October twenty-seven, 1938

Mark Ewald (Assn)

Your Application for a patent for an Improvement in Fruit Treating Apparatus filed Oct 6, 1932 has been examined and Allowed with 11 claims.

The final fee, Thirty Dollars, With \$1 Additional For Each Claim Allowed in Excess of 20, must be paid not later than Six Months from the date of this present notice of allowance. If the final fee be not paid within that period, the patent will be withheld, but the application may be renewed within one year after the date of the original notice with a renewal fee of \$30 and \$1 additional for each claim in excess of 20.

The office delivers patents upon the day of their date, on which date their term begins to run. The preparation of the patent for final signing and sealing will require about four weeks, and such work will not be begun until after payment of the necessary final fee.

When the final fee is paid, there should also be sent, Distinctly and Plainly Written, the name of the Inventor, Title of the Invention, and Serial Number as Above Given, Date of Allowance (which is the date of this circular), Date of Filing, and, if assigned, the Names of the Assignees.

If it is desired to have the patent issue to an Assignee or Assignees, an assignment containing a Request to that effect, together with the Fee for recording the same, must be filed in this office on or before the date of payment of the final fee.

After issue of the patent, uncertified copies of the drawings and specifications may be purchased at the price of Ten Cents Each. The money should accompany the order. Postage stamps will not be received.

The final fee will Not be received from other than the applicant, his assignee or attorney, or a party in interest as shown by the records of the Patent Office.

Notice.—When the Number of Claims Allowed is in Excess of 20, No Sum Less Than \$30 Plus \$1 Additional for Each Claim in Excess of Twenty Can be Accepted as the Final Fee.

Respectfully,

CONWAY P. COE

*Commissioner of Patents.*

\* \* \* \* \*

254 . Endorsed: Mail Division U. S. Patent Office Oct  
26 1939

*Petition for Renewal*

To the Honorable Commissioner of Patents:

Your petitioner, Mark Ewald, a citizen of the United States, residing at Olympia, in the County of Thurston, and State of Washington, whose post office address is 410 Capitol Parkway, Olympia, Washington, represents that on October 6, 1932, he filed an application for Letters Patent for an improvement in Fruit Treating Apparatus, Serial No. 636,447, which application was allowed on October 27, 1938. He now makes renewed application for Letters Patent for said invention and prays that the original specification, oath and drawing may be used as a part of this renewed application.

Signed at Chicago, in the County of Cook and State of Illinois, this 25th day of October, 1939.

MARK EWALD

By: COX & MOORE

*His Attorneys.*

\* \* \* \* \*

271      Endorsed: Mailed Nov 16 1939

Div. 25   Room 5709

Paper No. 28

Department of Commerce  
United States Patent Office  
Washington

EJD/1h

Applicant: Mark Ewald  
Ser. No. 636,447  
Filed: October 6, 1932  
For Fruit Treating Apparatus

Responsive to the amendment of October 26, 1939.

Claims 38, 39, 41 and 44 are rejected as being incomplete, misleading and broader than the invention. These claims do not include any means for dividing the fruit in half. Therefore it is implied in the latter part of each claim that the device of applicant pares and cores whole fruit. A claim similar to these claims was rejected in the Office action of February 10, 1937, as being incomplete and misleading and was so held by the Board of Appeals in appeal No. 23,004 of March 5, 1938. In their decision the Board held, regarding this point, that applicant "has disclosed a specific mechanism for paring and coring half pears, and it is not evident how any mechanism can be provided for paring and coring whole pears". "Applicant also would not be entitled to cover a machine which would operate in an entirely different manner and which has not been disclosed."

It is thought that claim 38 could be allowed if the expression—splitting means cooperating with said transfer mechanism for dividing the pears in halves,—were inserted before "a" in line 7. Also, the word *half* should be inserted before "pears" in line 9.

Claims 1, 2, 3, 4, 24, 28, 29, 30, 31, 34, 35, 37, 40, 42, 43 and 45 are allowable as at present advised.

The above rejection is final.

C. F. BLAKELY

*Examiner.*

• • • • •

272      Endorsed: Board of Appeals U. S. Patent Office  
May 14 1940

*Notice of Appeal*

Honorable Commissioner of Patents  
Washington, D. C.

Sir:

Applicant hereby appeals to the Board of Appeals from the action of the Examiner in finally rejecting Claims 38, 39, 41 and 44, as set forth in the Office Action of November 16, 1939.

The grounds for this appeal are that the Examiner erred in finally rejecting said Claims 38, 39, 41 and 44 on and for the reasons of record.

The appeal fee of \$15.00 is herewith enclosed.

Respectfully submitted,

COX & MOORE

*Attorneys for Applicant*

Chicago, Illinois  
April 30, 1940

• • • • •

274      Endorsed: Filed June 20 1940 Mailed

*Examiner's Statement*

Applicant has appealed from the final rejection of claims 38, 39, 41 and 44.

Claims 1, 2, 3, 4, 24, 28, 29, 30, 31, 34, 35, 37, 40, 42, 43 and 45 have been indicated as allowable.

The claims of appeal are:

38. An automatic machine for preparing pears comprising a rotary turret having a plurality of pear holding means, bobbing means operable in succession upon the pears on said holding means for severing the necks of the pears transversely to the stem axes thereof, transfer mechanism co-operable with said turret for transferring the bobbed pears from the turret, a second turret including additional spaced holding means co-operable with the transfer mechanism to receive the pears from the transfer mechanism, means for moving said second turret and its holding means in synchronism with the first-mentioned turret and its holding means, paring and coring mechanism operatively associated with the path of movement of said additional holding means and mechanism for actuating said transfer mechanism and said paring and coring mechanism in timed relation to said turrets.

39. An automatic machine for preparing pears comprising an intermittently operating fruit turret having a plurality of pear holding means, each comprising relatively shiftable members, means relatively shifting said members in timed relation with the intermittent movements of the turret to hold and release a pear, bobbing means operable in succession upon the pears while held in said holding means, additional shiftable pear holding means, transfer mechanism co-operable with said turret for transferring the pears after bobbing to said additional holding means, means  
275 for intermittently operating said turret and and shifting said additional holding means in synchronism, paring and coring mechanism mounted in the path of movement of said additional holding means, and mechanism for actuating said transfer mechanism and said paring and coring mechanism in timed relation to the movements of said turret and said additional holding means.

41. In an automatic pear processing machine, in combination with a support, a first turret mounted upon said support, means for intermittently rotating said turret, a plural-

ity of spaced pear holders mounted on said turret, said holders comprising relatively movable members, actuating means synchronized with the movement of said turret for shifting said members relatively to grasp and hold a pear therein and thereafter to release said pear to permit the same to be moved from said fruit holder, pear bobbing means on said support and disposed in the path of movement of said first-mentioned turret and adapted to form a cut through the neck of the pear transversely to the stem axis of the pear while said pear is held in the fruit holder of the first turret, a second turret on said support and having a series of fruit holding means thereon, means for intermittently rotating said second turret in synchronism with said first turret, peeling mechanism operatively associated with said second turret to peel the pears while held thereon, and transfer mechanism associated with said first turret and adapted upon predetermined registration of the fruit holders of said first and second turrets to transfer the pear from the fruit holder of said first turret to the fruit holding means of said second turret.

44. In a fruit preparation machine, first and second rotary turrets, each provided with a plurality of spaced fruit holding members, means for intermittently operating said turrets in synchronism to a plurality of stations, the first turret at one of its stations receiving fruit on its fruit holding member at said station, bobbing means operable upon the fruit when the first turret is at a second station, means operable upon the fruit when the first turret is at a third station and the second turret is at one of its stations for transferring the fruit from the fruit holding members of the first turret to the fruit holding members of the second turret, and mechanisms at subsequent stations of said second turret for paring and coring the fruit, and means for actuating said transferring means and said paring and coring mechanisms in timed relation to the movement of said turrets.

276 This case came before the Board on Appeals in a prior appeal No. 23,004 (see papers Nos. 20 to 24 in this file). The examiner's decision was there affirmed. The application was renewed after allowance and the claims on appeal were presented on renewal.

No prior art is relied upon in rejecting these claims.

The invention resides in a device for receiving whole pears and by a series of synchronized operations cutting off the stem end of the pears, splitting the pears in halves, and peeling and coring the halves. Two turrets 190 and 472 operating in synchronism with a transfer device 392 therebetween are employed for supporting the pears during the various operations. These turrets and the various devices operating on the fruit supported thereon are driven in synchronism through a common drive shaft 83 and main cam shaft 113 shown in Fig. 3. Cams 120 and 125 on cam shaft 113 function to operate the bobbing transfer, peeling and coring devices. Gear 134 on shaft 113 through gears and Geneva cams shown in Fig. 5 function to rotate the turrets step by step to position the pears for the various operations thereon.

A whole pear is placed in cup 202 of the first turret, 190 while in position A, Fig. 13. In position B the pear is clamped securely in the cup by the fingers. In position C a bobbing mechanism operates to cut off the stem end of the pear. This mechanism shown in Figs. 10 to 13 is allowed to move radially inward against the stem end by cam 295 which is operated by the counter clockwise movement of shaft 315 and lever 312. Further movement of the  
277 shaft 315 and lever 312 cause the knife 250 to swing and sever the end of the pear. Shaft 315 is operated by cam 120 and cam follower 121 on cam shaft 113. In position D the bobbed whole pear is elevated by cam 240 into position to be received by the transfer device 392.

The transfer device shown in Figs. 4, 21 and 22 slides on rods 354 and 355 and is operated by shaft 315 through lever 312. Clockwise movement of the shaft 315 and lever arm



312 transfers the carriage 392 backward through the splitting blade 436, which cuts the pear in halves, into position over a pair of cups 460 on the second turret. In this position the two leaf members 432 separate the halves and spread apart concurrently with the spreading of the clamp arms of the carriage to position each half pear in its respective cup flat side up.

The second turret upon receiving its charge of half pears from the transfer device at station W, Fig. 5, moves to station X, where the half pears are operated upon by the peeling device to sever the peel therefrom. The peeling device shown in Figs. 2 and 28 is lowered into operative position through cam 120 and yoke 515. When in lowered position the pad or flat pressure plate 590 contacts the cut face of the pear and holds it securely in the cup 460. Whereupon the rotation of shaft 315 through links 562 and 563 and rack 557 functions to rotate the blade 540 about the periphery of the pear, as shown in Fig. 29, severing the peel therefrom. Upon severing the peel, the peeling device is raised

by cam action and the second turret rotates the cups 278 containing the pears with the severed peel to station Y where they are cored and the peeled halves removed from the cups.

The device for coring and removing the halves from the cups is shown in Figs. 3, 35, 36 and 37. Cam 125 and cam follower 125 operates rack 713 which rotates shaft 614 which causes the plate 635 and coring knife 634 to move downward into contact with the cut face of the pears. Further rotation of the shaft causes the knife and plate to rotate in opposite direction  $180^\circ$  thereby simultaneously severing the core from the pear and removing the pear from the cup as shown in Fig. 46. Upon reverse movement of the rack 713 the plate 635 and knife 634 are tilted upwardly into raised position carrying the peeled half pear with them and discharging it as shown in Fig. 37.

All four claims on appeal stand rejected as being incomplete, misleading and broader than the invention. This re-

jection is based on the fact that the claims do not include any means for dividing the fruit in half and therefore it is implied in the latter part of each claim that the device of applicant pares and cores whole fruit.

A similar claim, (claim 32) was passed upon by the Board of Appeals in the previous appeal. That claim was rejected on the same grounds as the present claims. In their decision, in upholding this rejection the Board said:

The present claim does not include the means for splitting the pears into two halves. The examiner has therefore rejected the claim as being incomplete, misleading and broader than the invention. It is to be noted that the claim includes a fruit turret having receiving and  
 279 holding means for receiving one at a time whole pears. The rest of the claim does not mention that there is any means for halving the pears. Hence it would be inferred from the claim that the mechanism subsequently included is of a nature so as to pare the whole pears. But applicant has disclosed no such means. He has disclosed a specific mechanism for paring and coring half pears, and it is not evident how any mechanism can be provided for paring and coring whole pears. We believe that the examiner's rejection is sound. The claim is misleading and incomplete. Applicant also would evidently not be entitled to cover a machine which would operate in an entirely different manner and which he has not disclosed. The present machine is a specific machine which operates to core and pare half pears and claims to it have been allowed by the examiner. No machine is disclosed for paring and coring whole pears.

It is respectfully submitted that since the claims refer to pears and no mechanism for splitting the pears into halves is recited, it is implied that the device pares and cores whole fruit. It appears therefore that the statement by the Board of Appeals quoted, hereinabove, in connection

with claim 32 applies equally to the present claims on appeal.

Respectively submitted,

G. P. SAKIS

*Acting Examiner, Div. 25.*

294 Endorsed: U. S. Patent Office Board of Appeals  
Mailed Nov 22 1940

Before the Board of Appeals

Ex parte Mark Ewald

Application for Patent filed October 26, 1939, Serial No. 636,447, a renewal of an application filed October 6, 1932. Fruit Treating Apparatus.

Messrs. Cox, Moore & Olson for applicant.

This is an appeal from the action of the Primary Examiner finally rejecting claims 38, 39, 41 and 44.

Claim 38 is illustrative.

38. An automatic machine for preparing pears comprising a rotary turret having a plurality of pear holding means, bobbing means operable in succession upon the pears on said holding means for severing the necks of the pears transversely to the stem axes thereof, transfer mechanism cooperable with said turret for transferring the bobbed pears from the turret, a second turret including additional spaced holding means cooperable with the transfer mechanism to receive the pears from the transfer mechanism, means for moving said second turret and its holding means in synchronism with the first-mentioned turret and its holding means, paring and coring mechanism operatively associated with the path of movement of said additional holding means and mechanism for actuating said transfer mechanism and said paring and coring mechanism in timed relation to said turrets.

No anticipatory art is relied upon.

295 The invention relates to an automatic machine for preparing pears for canning and other purposes.

The machine comprises two rotary turrets and a transfer mechanism between them. The first turret includes a plurality of pear-holding means which move the pears to different stations. At one station bobbing means operate to sever the necks transversely to the stem axes so as to remove the stem. The transfer means carries the pears from the first to the second turret. A pear-splitting means is arranged to split the pears before they are transferred. In the second turret coring means are provided for separately coring and paring each half pear.

The claims stand rejected on the single ground of being incomplete, misleading and broader than the invention. The claims do not include any pear-splitting means. The examiner states that the claims imply that the device pares and cores whole fruit, whereas no construction has been disclosed for paring or coring whole fruit. It is the examiner's view that the pear-splitting means must be included to render the claims complete and to overcome the rejection of being too broad.

It is argued by applicant that it is not necessary to include the pear-splitting means because it is possible to start with pears that have already been split and operate upon them. He also apparently contends that half pears can be placed in the holders of the first turret and carried through the machine and operated on. He therefore argues that he should be entitled to claims wherein a splitting means need not be employed.

296 Nowhere in the original specification or original claims covering the combination of the two turrets was there any indication given that the splitting means can be omitted. The entire disclosure relates to the preparation of the pears by starting with whole pears. The holding means on the first turret are so shaped that they fit whole pears and hold them firmly while they are being operated on. A number of parts are so shaped that they are specially adapted to handle or operate on whole pears. The timing of the parts is such that the cutter comes into operation at a certain time during the preparation of the pears

in the machine. The parts in the second turret are intended and adapted for paring and coring split pears and could not be used for paring and coring whole pears. It seems to us that the pear-splitting mechanism is an essential part of the machine and the entire machine was constructed with a view of starting with whole pears and splitting them.

Without a doubt subcombination claims may be obtained in addition to claims to the entire combination. Such subcombination claims should cover a construction which will accomplish a useful result. In the present case there is no indication that the construction claimed can or was ever intended to accomplish a result. To accomplish any result it is necessary to employ a pear-splitting means. We believe, therefore, that the claims as drawn are incomplete and cover constructions never contemplated by applicant.

The decision of the examiner is affirmed.

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Board of Appeals

EUGENE LANDERS

*Examiner-in-Chief*

E. T. MORGAN

*Examiners-in-Chief*

F. P. EDINBURG

*Examiner-in-Chief*

Messrs. Cox, Moore & Olson

135 S. La Salle St.

Chicago, Ill.

November 22, 1940

## **APPENDIX OF STATUTES**

## STATUTES ON JURISDICTION.

*Revised Statutes, Title LX: Sec. 4915, (U. S. C., title 35, sec. 63) (Amended by Act of February 9, 1893, c. 74, sec. 9, 7 Stat. 436; March 2, 1927, c. 273, sec. 11, 44 Stat. 1336; March 2, 1929, c. 488, sec. 2 (b), 45 Stat. 476; August 5, 1939, c. 451, sec. 4, 53 Stat. 1212.)*

Whenever a patent on application is refused by the Board of Appeals or whenever any applicant is dissatisfied with the decision of the board of interference examiners, the applicant, unless appeal has been taken to the United States Court of Customs and Patent Appeals, and such appeal is pending or has been decided, in which case no action may be brought under this section, may have remedy by bill in equity, if filed within six months after such refusal or decision; and the court having cognizance thereof, on notice to adverse parties and other due proceedings had, may adjudge that such applicant is entitled, according to law, to receive a patent for his invention, as specified in his claim or for any part thereof, as the facts in the case may appear. And such adjudication, if it be in favor of the right of the applicant, shall authorize the commissioner to issue such patent on the applicant filing in the Patent Office a copy of the adjudication and otherwise complying with the requirements of law. In all cases where there is no opposing party a copy of the bill shall be served on the commissioner; and all the expenses of the proceedings shall be paid by the applicant, whether the final decision is in his favor or not. In all suits brought hereunder where there are adverse parties the record in the Patent Office shall be admitted in whole or in part, on motion of either party, subject to such terms and conditions as to costs, expenses, and the further cross-examination of the witnesses as the court may impose, without prejudice, however, to the right of the parties to take further testimony. The testimony and exhibits, or parts thereof, of the record in the Patent Office when admitted shall have the same force and effect as if originally taken and produced in the suit.



*Act of Mar. 3, 1911, c. 231, sec. 24, 36 Stat. 1091 (Judicial Code):*

Sec. 24. (U. S. C., title 28, sec. 41.) The district courts shall have original jurisdiction as follows:

\* \* \* \* \*

Seventh. Of all suits at law or in equity arising under the patent, the copyright, and the trade-mark laws.

*The District Court of the United States for the District of Columbia (formerly the Supreme Court of the District of Columbia) in patent causes has district court jurisdiction—Cochrane v. Deener, 94 U. S. 780; 11 O. G. 687.*

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Sec. 128. (U. S. C., title 28, sec. 225.) (a) The circuit court of appeals shall have appellate jurisdiction to review by appeal final decisions—(Amended by act of Feb. 13, 1925.)

First. In the district courts, in all cases save where a direct review of the decision may be had in the Supreme Court under section two hundred and thirty-eight. (U. S. C., title 28, sec. 345.)

## STATUTES INVOLVED.

### *Revised Statutes, Title LX*

Section 4886 (U. S. C., title 35, sec. 31.) (Amended by Act of March 3, 1897, c. 391, sec. 1, 29 Stat. 692; Act of March 23, 1930, c. 312, section 1, 46 Stat. 376) Any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and useful improvements thereof, or who has invented or discovered and asexually reproduced any distinct and new variety of plant, other than a tuber-propagated plant, not known or used by others in this country, before his invention or discovery thereof, and not patented or described in any printed publication in this or any foreign country, before his invention or discovery thereof or more than two

years prior to his application, and not in public use or on sale in this country for more than two years prior to his application, unless the same is proved to have been abandoned, may, upon payment of the fees required by law, and other due proceeding had, obtain a patent therefor.

*Act of August 5, 1939, c. 450, 53 Stat. 1212:*

That sections 4886, 4887, 4920, and 4929 of the Revised Statutes (U. S. C., title 35, secs. 31, 32, 69, and 73) be amended by striking out the words "two years" wherever they appear in said sections and substituting therefor the words "one year."

Sec. 2. This Act shall take effect one year after its approval and shall apply to all applications for patent filed after it takes effect and to all patents granted on such applications: *Provided, however,* That all applications for patents filed prior to the time this Act takes effect and all patents granted on such applications are to be governed by the statutes in force at the time of approval of this Act as if such statutes had not been amended.

*Section 4888 (U. S. C., title 35, sec. 33) (Amended by Act of March 3, 1915, c. 94, sec. 1, 38 Stat. 958; Act of May 23, 1930, c. 312, sec. 2, 46 Stat. 376:*

Before any inventor or discoverer shall receive a patent for his invention or discovery he shall make application therefor, in writing, to the Commissioner of Patents, and shall file in the Patent Office a written description of the same, and of the manner and process of making, constructing, compounding, and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same; and in case of a machine, he shall explain the principle thereof, and the best mode in which he has contemplated applying that principle, so as to distinguish it from other inventions; and he shall particularly point out

and distinctly claim the part, improvement, or combination which he claims as his invention or discovery. The specification and claim shall be signed by the inventor. No plant patent shall be declared invalid on the ground of noncompliance with this section if the description is made as complete as is reasonably possible.

## **CONSTITUTION.**

### **Article I.**

Section 8. The Congress shall have Power . . .

To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries;

[fol. 141]                      Tuesday, November 2nd, A. D. 1943.

Before Honorable Justin Hiller, Henry W. Edgerton, and  
Thurman Arnold, Associate Justices.

Proclamation being made the Court is opened.

No. 8466, October Term, 1943

SPECIAL EQUIPMENT COMPANY, Appellant,

VS.

CONWAY P. COE, Commissioner of Patents, Appellee

Argument commenced by Mr. Curtis F. Prangley, attorney for appellant, continued by Mr. E. L. Reynolds, attorney for appellee, and concluded by Mr. Curtis F. Prangley, attorney for appellant.

# United States Court of Appeals

DISTRICT OF COLUMBIA

No. 8466

SPECIAL EQUIPMENT COMPANY, APPELLANT,

v.

CONWAY P. COE, COMMISSIONER OF PATENTS, APPELLEE.

Appeal from the District Court of the United States for the District of Columbia

Argued November 2, 1943.

Decided June 19, 1944.

*Mr. Curtis F. Prangley*, with whom *Messrs. James M. Graves* and *Ballard Moore* were on the brief, for appellant.

*Mr. E. L. Reynolds*, with whom *Mr. W. W. Cochran*, Solicitor, United States Patent Office, was on the brief, for appellee.

Before MILLER, EDGERTON and ARNOLD, Associate Justices.

ARNOLD, *Associate Justice*: The alleged invention in this case is a machine which automatically cuts, peels and cores pears for canning. It consists of (1) a revolving turret in which the tops of the pears are "bobbed" or cut off, (2) a mechanism which transfers them to a splitting knife which cuts them in half, and (3) a second revolving turret in which the halved pears are peeled and cored. The machine has been highly successful. It has made it possible to double the annual pear pack since 1931 and materially reduced the cost of canned pears. About eighty per cent of all pears canned are prepared by this machine. A patent has been allowed on the entire machine.

This appeal is taken from the rejection of claims for a subcombination of the parts of a machine omitting the cutting knife. For convenience we will refer to the machine without the cutting knife as the partial machine, and the machine with the cutting knife as the complete machine. The trial court rejected the claims in effect because they did not represent a true subcombination. It found that the cutting knife was an essential element to produce a useful result. It concluded, therefore, that the machine without the cutting knife was not the invention which was disclosed in the application, and that claims which left out the cutting knife did not actually describe the invention.

If it be true (1) that the subcombination does not produce a useful result, and (2) that only one invention is disclosed, to wit: the complete machine, the refusal of the subcombination claims here is justified. However, these propositions rest on a very slender foundation. In answering them the plaintiff showed motion pictures of the

## 2.

subcombination in actual operation without the cutting knife. It was clear that the result was far more useful than the old method of preparing fruit by hand. The only basis for the argument that the result was not useful rests on the fact that the work was done much better by the complete machine. In such twilight cases there is no real test whether or not the application discloses one invention or two distinct inventions. In this case it seems more plausible to say that the subcombination does produce a useful result and that two distinct inventions are disclosed in the application.

However, we need not decide this question because even if we take appellant's contention at its face value and assume that the claims for the subcombination present a distinct and useful invention, nevertheless we believe that a patent on that invention should be denied. The reason is that appellant's purpose in making a distinct patent claim on the subcombination is not to stimulate the commercial development or financial return from that patent. Instead, the record shows that it is to be used to exploit and protect the patent monopoly of another related invention, to wit: the complete machine. There is no intention to make or license others to make the partial machine because, although it is possible to use it without the cutting knife, it is not designed for such independent use. It is only an artificial and clumsy substitute for the complete machine. It requires that the fruit first be cut in half and then the two halves joined together by hand before they are inserted. There is no rhyme or reason for manufacturing such a partial machine when there is available the complete machine which does the cutting mechanically.

The only real value of a patent on this subcombination is to protect the patent on the complete machine. How important that protection may be in this case we cannot ascertain. Theoretically if the complete machine is adequately described in the specifications the sub-patent is not needed at all. If someone develops a new machine that imitates appellant's machine too closely it will infringe the principal patent and the subcombination claim will be superfluous.

But the principle involved in approving patent claims whose only purpose is to protect other patent claims has far-reaching consequences.

It is a common technique, in what has become the organized business of getting patents, to surround a single invention with a number of patented claims or parts or aspects of that invention which the applicant has no intention of manufacturing or exploiting as distinct patents.<sup>1</sup> These are often called blocking or fencing patents. A good illustration of the idea we are trying to express is found in a memorandum of patent policy of a large concern investigated by the Temporary National Economic Committee, which reads as follows:

"In taking out patents we have three main purposes—

"(a) To cover the actual machines which we are putting out, and prevent duplication of them. . . .

"(b) To block the development of machines which might be constructed by others for the same purpose as our machines, using alternative means. . . .

<sup>1</sup> Cf. the use of a process patent to extend the monopoly of another patent in *Ethyl Gasoline Corp. v. United States*, *infra* note 8.

"(c) To secure patents on possible improvements of competing machines, so as to 'fence in' those and prevent their reaching an improved stage. . . ."<sup>2</sup>

Another example of the same policy is found in the testimony of Mr. Charles Kettering before the Temporary National Economic Committee, who explained the practice as follows:

"Sometimes there are half a dozen ways of doing a thing after you start to do it. When you put your money on that way, you take out these auxiliary patents as sort of protective things you didn't find yourself, and I think that is all right, too."<sup>3</sup>

These, of course, are only examples—which may or may not have influenced this particular appellant—to illustrate the dangers inherent in the granting of blocking and fencing patents. The record does not show that appellant here expects to use its fencing claim aggressively. It may well be that its purpose is protection against the aggressive use of similar patents by others. Yet if this be so it is only another illustration of the danger of allowing such claims as distinct inventions. Once that practice is established claims multiply in all directions. The fact that some use them for aggression compels others to demand them for protection. The result of granting blocking or fencing patents is to create a maze of patent restrictions whose effect is to confuse and impede business competitors and inventors and to entrench some one corporation in the position of domination over an industrial technique.

In the absence of controlling decisions on this subject it would seem apparent that to grant a patent for the purpose of blocking the development of machines which might be constructed by others is a violation of the constitutional provision that the patent law must promote science and the useful arts. The dangers of approving a principle which permits a patent monopoly to be extended by granting claims on distinct inventions, which the applicant has no intention of exploiting as distinct inventions, are apparent in the growth of modern monopolies based on patent control. Such patents are invalid for the same reason which condemns broad and misleading claims. That principle, as stated by Mr. Justice Bradley as early as 1872, is to protect the public from "ingenious attempts . . . to discourage further invention in the same department of industry . . ."<sup>4</sup>

The blocking or fencing patent is actually an ingenious device to broaden the scope of the invention beyond the article or process which is actually intended to be manufactured or licensed, and thus comes within the principle of the rule laid down by Mr. Justice Bradley.

At one time the reasoning of the *Paper Bag* case<sup>5</sup> could be used to support the present attempt to obtain one patent claim for the purpose of protecting another. In that case the defendant argued that the equitable remedy of injunction against infringement should be denied because of the plaintiff's "unreasonable non-use" of the patent.

<sup>2</sup> Hearing, Temporary National Economic Committee, Investigation of Concentration of Economic Power, Part 2, p. 776 (Exhibit No. 125) (1939); 75th Cong., 3d Sess.

<sup>3</sup> *Ibid.*, p. 345.

<sup>4</sup> *Carlton v. Booke*, 17 Wall. (U. S.) 463, 471-472 (1872).

<sup>5</sup> *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U. S. 405 (1908).



Plaintiff did not manufacture and declined to license the patent in question, in order to protect his investment in another patented machine with which the suppressed patent competed. This use of the patent to aid in the exploitation of another patent was approved in the opinion. The only qualification was a suggestion that a different result might be reached had the evidence shown "a question of diminished supply or of increase in prices."

From this decision it might be argued that a patent should be granted even if it appeared that the applicant's purpose was not to manufacture but to protect another patent. If the use of the patent to suppress manufacture is proper, then the grant of a patent for that purpose may be equally proper. The fact that the *Paper Bag* case involved infringement is a distinction without a difference.

We do not follow the reasoning of the *Paper Bag* case because we believe that its principle, which is inconsistent with the constitutional provision that the patent law "promote science and the useful arts," has been overruled by subsequent decisions. Indeed, it was the growth of monopoly restrictions which followed it that blew up the *Paper Bag* case till it burst. The *Paper Bag* case was decided at a time when according to the *Button Fastener* case,<sup>6</sup> it was supposed to be lawful to enlarge the scope of the patent monopoly by means of a tying clause to enable the patentee to control the price of unpatented articles used with the patent. The *Paper Bag* opinion rests largely on language taken from the *Button Fastener* case.

But, in 1917, in *Motion Picture Patents Company v. Universal Film Mfg. Co.*,<sup>7</sup> the Supreme Court overruled the cases which had formerly approved the use of a patent to control unpatented materials. The principle enunciated in the *Motion Picture Patents* case is broad enough to overrule the *Paper Bag* case. We can see no difference in principle between refusal to license unless unpatented materials are also taken (the practice condemned in the *Motion Picture Patents* case), and refusal to license or manufacture which was sustained in the *Paper Bag* case. The ultimate purpose is the same, the exploitation of a product outside the scope of the patent monopoly; and the means are the same, positive manipulation of the patent. In both cases the patentee has consciously framed a policy to so use his patent grant as to secure enhanced business advantages in a sphere which has no connection with the development of the particular invention which is patented. We find no valid distinction between using a patent to exploit the business of selling unpatented materials and using it to exploit another invention or to promote a general business policy. Nevertheless, the *Paper Bag* case continued to be cited by courts until the decision in *Ethyl Gasoline Corp v. United States*.<sup>8</sup>

In the *Ethyl* case the defendant in an antitrust prosecution owned several patented claims related to the same basic invention, an anti-knock motor fuel. One claim was for the fluid, tetra-ethyl lead. Another patent claim covered the mixture of that fluid and gasoline. The defendant's sole revenue came from the sale of the patented fluid. The mixture patent was used to aid the exploitation of the fluid patent.

<sup>6</sup> *Heaton-Peninsula Button-Fastener Co. v. Eureka Specialty Co.*, 77 Fed. 288 (C. C. A. 6th, 1896).

<sup>7</sup> 243 U. S. 502 (1917).

<sup>8</sup> 309 U. S. 436 (1940).

The Court struck down Ethyl's system of exploitation. In the portion of his opinion headed "Scope of the Patent Monopoly" Mr. Justice Stone said:

"... Such benefits as result from control over the marketing of the treated fuel by the jobbers accrue primarily to the refiners and indirectly to appellant, only in the enjoyment of its monopoly of the fluid secured under another patent. The licensing conditions are thus not used as a means of stimulating the commercial development and financial returns of the patented invention which is licensed, but for the commercial development of the business of the refiners and the exploitation of a second patent monopoly not embraced in the first. The patent monopoly of one invention may no more be enlarged for the exploitation of a monopoly of another, see *Standard Sanitary Mfg. Co. v. United States*, *supra*, than for the exploitation of an unpatented article, *United Shoe Machinery Co. v. United States*, *supra*; *Carbice Corporation v. American Patents Corp.*, *supra*; *Leitch Manufacturing Co. v. Barber Co.*, *supra*; *American Lecithin Co. v. Warfield Co.*, 105 F. 2d 207, or for the exploitation or promotion of a business not embraced within the patent. *Interstate Circuit v. United States*, *supra*, 228-230."<sup>9</sup>

We believe this language finally overrules what was left of the *Paper Bag* case. It declares that a patent can neither be used to protect another patent nor for the commercial development of other business of the patentee. Its proper function is limited to the development of the article or process covered by the claim. This conclusion is clearly the only one consistent with the constitutional mandate.<sup>10</sup> And this conclusion would clearly forbid the applicant here to use his patent, if granted, to enlarge the scope of the patent on the complete machine

<sup>9</sup> *Ibid.*, at p. 459.

<sup>10</sup> *Motion Picture Patents Company v. Universal Film Mfg. Co.*, 243 U. S. 502, 510-511 (1917):

"3d. Since *Pennock v. Dialogue*, 2 Pet. 1. 7 L. ed. 327, was decided in 1825, this court has consistently held that the primary purpose of our patent laws is not the creation of private fortunes for the owners of patents, but is 'to promote the progress of science and the useful arts' (Constitution, art. 1, § 8).—an object and purpose authoritatively expressed by Mr. Justice Story, in that decision, saying:

"While one great object [of our patent laws] was, by holding out a reasonable reward to inventors and giving them an exclusive right to their inventions for a limited period, to stimulate the efforts of genius, the main object was 'to promote the progress of science and useful arts.'"

"Thirty years later this court, returning to the subject, in *Kendall v. Winsor*, 21 How. 322, 16 L. ed. 165, again pointedly and significantly says:

"It is undeniably true, that the limited and temporary monopoly granted to inventors was never designed for their exclusive profit or advantage; the benefit to the public or community at large was another and doubtless the primary object in granting and securing that monopoly."

"This court has never modified this statement of the relative importance of the public and private interests involved in every grant of a patent, even while declaring that, in the construction of patents and the patent laws, inventors shall be fairly, even liberally, treated. *Grant v. Raymond*, 6 Pet. 218, 241, 8 L. ed. 376, 384; *Winans v. Denmead*, 15 How. 330, 14 L. ed. 717; *Walker, Patents*, § 185."

and to exploit and secure the business carried on in connection with that patent.

It follows that a patent claim should not be granted where it appears that the patentee expects to use it not for manufacture and sale but to protect another patent claim. If the record shows that the patent claim is made for the unlawful purpose of protecting another patent it is an unlawful patent. This does not mean that the applicant must guarantee production of the article or process covered by the claim. It is impossible to guess the utility or commercial success of any patent, and non-use standing alone is not a positive illegal use.<sup>11</sup> It does mean that the applicant must have some expectation of exploiting his patent if he can, rather than using it for purposes condemned in the *Ethyl* case. To hold otherwise is to suggest that the Patent Office furnish the opportunity for future illegal restraints of trade.

The best protection against the issuance of blocking or fencing patents would be to require the applicant to set out the real purpose for which the claim was made. Such a rule would require evidence of intention to stimulate the commercial development and financial returns of the particular invention covered by the claim, and a negative showing that its purpose was not to protect some other patent or claim. At present no such inquiry is made by the Patent Office (perhaps on account of the *Paper Bag* decision) but its absence does not justify the court in ignoring a blocking purpose which, as in this case, is clear on the face of the record.

It should be noted that this decision does not deprive appellant of a reward for his ingenuity in devising the mechanism set out in the subcombination claims. All it does is to deprive him of a distinct patent right in that subcombination standing by itself. The same subcombination mechanism is set out in the claims on the complete machine which have been allowed. These claims which have been allowed on the complete machine are obviously not inventions distinct from each other but different ways of describing the single invention of the complete machine.<sup>12</sup> They, therefore, establish no distinct patent rights but instead only outline the scope of the principal invention.

It is obvious that the more distinct patent rights an inventor can get on the parts of a machine the more power he has to handicap the inventive ingenuity of others who may use these same parts in

<sup>11</sup> As was said by Judge Aldrich, sitting in the Circuit Court of Appeals, in his dissenting opinion in *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 150 Fed. 741, 745 (C. C. A. 1st, 1906):

"Simple nonuse is one thing. Standing alone, nonuse is no efficient reason for withholding injunction. There are many reasons for nonuse which, upon explanation, are cogent, but when acquiring, holding, and nonuse are only explainable upon the hypothesis of a purpose to abnormally force trade into unnatural channels—a hypothesis involving an attitude which offends public policy, the conscience of equity, and the very spirit and intention of the law upon which the legal right is founded—it is quite another thing."

<sup>12</sup> Rule 41 of the Patent Office reads in part as follows: "... where several distinct inventions are dependent upon each other and mutually contribute to produce a single result they may be claimed in one application: ..." However, in a large number of cases the theory that the different claims are distinct inventions is pure fiction. The court must recognize that such claims often do not create distinct patent rights.

more original ways. The question of how many distinctly patentable parts there are in a patent on a whole can never be determined with any certainty through the process of logic or analysis. It seems, therefore, a safe, practical test to limit the number of distinct patent rights in a single machine to those which the inventor expects to exploit separately, and not to suppress. Distinct patent rights should not be granted for the sole purpose of handicapping future inventors whose discoveries would not otherwise infringe the complete patent.

I fully agree with the concurring opinion of Mr. Justice Miller which states the same principle with a slightly different emphasis.

For these reasons the judgment of the court below will be

*Affirmed.*

MILLER, *Associate Justice*: I concur fully in Justice Arnold's opinion. Its implications are far-reaching. They will require a considerable reexamination—if not readjustment—of Patent Office practices and procedures, especially with respect to subcombination claims. For these reasons I wish to spell out in greater detail my analysis of the questions involved.

In the present case we have typical subcombination claims. There is no lack of completeness or clarity in them; they specifically point out what is claimed as an invention and it would not be difficult to construct the subcombination from the drawings. The notion that the bobbing operation cannot take place after the pear has been split by hand ignores the texture and character of canning pears. The suggestion that the subcombination is inoperative when the pear is pre-split by hand is directly contrary to the evidence, particularly to the incontrovertible evidence of the motion picture which was displayed to this court as well as to the trial court. The notion that the inventor must have thought only in terms of splitting as an intermediate process, ignores the long history of pear canning as a hand process, and the inescapable fact that one who was experimenting in this area must have tried a variety of arrangements until he found the one most adapted to his purpose. Considered in terms of the older practices in pear canning the subcombination machine, standing alone, represented a tremendous advance, and, in operation, would result in great saving of manpower, of time, working space, and of the more primitive equipment formerly used. The record makes these facts apparent beyond question. But the suggestion of the Patent Office—expressed in the opinion of its Board of Appeals—"that the claims as drawn . . . cover constructions never contemplated by applicant" opens up the question whether these claims, which were filed by the inventor's assignee seven years after the original application, were actually intended to describe an invention, or whether they were intended, improperly, to fence and block an area of investigation and research, solely to protect the main invention, by suppressing use, or further discovery in this area.

Where, as here, such subcombination claims are filed by assignees, who are manufacturers and distributors rather than persons skilled

in the art, the Patent Office is put on notice of the probability suggested. As a matter of fact, appellant freely admitted, both on argument and in its brief in the present case, that its purpose in filing the disputed claims was to "protect" the main invention and that it had no intention of manufacturing the subcombination machine. This brings us then to the questions, first, whether the purpose of the patent clause will be accomplished by granting a patent to cover such claims and, second, whether an applicant can compel the issuance of a patent under circumstances which reveal a purpose contrary to that of the Constitution.

The constitutional provision<sup>1</sup> involves two conflicting considerations: The first, "To promote the Progress of Science and useful Arts . . ."; the second, "securing for limited Times to Authors and Inventors the exclusive Right. . . ." to their inventions. Consistently, judicial interpretation of this provision has declared its major purpose to be the promotion of science and the useful arts.<sup>2</sup> Some of the earlier cases, however, placed considerable emphasis upon the rights of the inventor, at the expense of the major constitutional purpose.<sup>3</sup> The most extreme example of this comparative emphasis appears in the *Button-Fastener* case,<sup>4</sup> decided in 1896 by a circuit court of appeals composed of Taft, Lurton and Hammond: "Especially is this caution applicable when we sit in judgment upon the limitations which a patentee may put upon the use of his invention. If he see fit, he may reserve to himself the exclusive use of his invention or discovery. If he will neither use his device, nor permit others to use it, *he has but suppressed his own.*" [Italics supplied] But even in the *Button-Fastener* case the Court recognized the weight of the countervailing consideration; although it refused on that account to limit the patentee's monopoly. It said: "That the grant is made upon the reasonable expectation that he will either put his invention to practical use, or permit others to avail themselves of it upon reasonable terms, is doubtless true. This expectation is based alone upon

<sup>1</sup> U. S. CONST. ART. I, § 8, CL. 8.

<sup>2</sup> Motion Picture Patents Co. v. Universal Film Mfg. Co., 243 U. S. 502, 510-511; Warner v. Smith, 13 App. D. C. 111, 114; Woodbridge v. United States, 263 U. S. 50, 55; United States v. Univis Lens Co., Inc., 316 U. S. 241, 250; Morton Salt Co. v. G. S. Suppiger Co., 314 U. S. 488, 492; The Mercoid Corp. v. Mid-Continent Investment Co., 320 U. S. 661, 665.

<sup>3</sup> United States v. American Bell Tel. Co., 167 U. S. 224, 250: "Counsel seem to argue that one who has made an invention and thereupon applies for a patent therefor, occupies, as it were, the position of a quasi trustee for the public; that entirely from the thought thus urged. The inventor is one who has discovered to the free use of that invention as soon as is conveniently possible. We dissent he is under a sort of moral obligation to see that the public acquires the right something of value. It is his absolute property. He may withhold the knowledge of it from the public, and he may insist upon all the advantages and benefits which the statute promises to him who discloses to the public his invention." Continental Paper Bag Co. v. Eastern Paper Bag Co., 210 U. S. 405, 429: "As to the suggestion that competitors were excluded from the use of the new patent, we answer that such exclusion may be said to have been of the very essence of the right conferred by the patent, as it is the privilege of any owner of property to use or not use it, *without question of motive.*" [Italics supplied] Crown Die & Tool Co. v. Nye Tool & Machine Works, 261 U. S. 24, 34. See United Drug Co. v. Theodore Rectanus Co., 248 U. S. 90, 97-98. Cf. Fox Film Corp. v. Doval, 286 U. S. 123, 127.

<sup>4</sup> Heaton-Peninsular Button-Fastener Co. v. Eureka Specialty Co., 6 Cir., 77 F. 268, 294-295.



the supposition that the patentee's interest will induce him to use, or let others use, his invention. The public has retained no other security to enforce such expectations."<sup>5</sup> In the Supreme Court cases the proposition was never pushed so far. That Court was content to define the limits of the patentee's monopoly in terms of nonuser,<sup>6</sup> rather than of suppression.

The applicable statute has, from the beginning, spoken in terms of "making, constructing, using and vending."<sup>7</sup> Here was an interposition of governmental control, pursuant to the Constitution, over an area of property rights formerly regulated by principles of the common law. A persuasive analogy may be found in the water law of the Western States; which permits an owner of land to secure, by prior appropriation, rights in running water—against the Government or the erstwhile riparian owner—but limits those rights in terms of his continuing, beneficial use. As pointed out in the majority opinion, the Supreme Court, in the *Motion Picture Patents* case, rejected the extreme doctrine of the *Button-Fastener* case, and in doing so stated that the defect in the reasoning of the latter case sprang in part from substituting "inference and argument for the language of the statute." It rejected the argument that "since the patentee may withhold his patent altogether from public use he must logically and necessarily be permitted to impose any conditions which he chooses upon any use which he may allow of it."<sup>8</sup> In the *Standard Sanitary Manufacturing Company* case,<sup>9</sup> the Court said: "Rights conferred by patents are indeed very definite and extensive, but they do not give any more than other rights an universal license against positive prohibitions. The Sherman law is a limitation of rights, rights which may be pushed to evil consequences and therefore restrained." The language of the *Ethyl* case is even more far-reaching.<sup>10</sup>

Generally speaking, the patentee may not enlarge his monopoly or acquire some other which the statute and the patent together did not give.<sup>11</sup> Public policy forbids the use of a patent to secure an exclusive right or limited monopoly not granted by the Patent Office and which it is contrary to public policy to grant.<sup>12</sup> The limits of the patent are

<sup>5</sup> *Ibid.*

<sup>6</sup> *Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U. S. 405, 429-430: "We have seen that it has been the judgment of Congress from the beginning that the sciences and the useful arts could be best advanced by giving an exclusive right to an inventor. The only qualification ever made was against aliens in the act of 1832. . . . It is manifest, as is said in Walker on Patents, § 106, that Congress has not 'overlooked the subject of non-user of patented inventions.' And another fact may be mentioned. In some foreign countries the right granted to an inventor is affected by non-use. This policy, we must assume, Congress has not been ignorant of nor of its effects. It has, nevertheless, selected another policy; it has continued that policy through many years. We may assume that experience has demonstrated its wisdom and beneficial effect upon the arts and sciences." See cases cited in note 3 *supra*.

<sup>7</sup> 1 STAT. 318, 321; 35 U. S. C. A. § 40.

<sup>8</sup> *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U. S. 502, 514-516.

<sup>9</sup> *Standard Sanitary Mfg. Co. v. United States*, 226 U. S. 20, 49.

<sup>10</sup> *Ethyl Gasoline Corp. v. United States*, 309 U. S. 436, 459.

<sup>11</sup> *Ethyl Gasoline Corp. v. United States*, 309 U. S. 436, 456-457: "He may not, by virtue of his patent, condition his license so as to tie to the use of the patented device or process the use of other devices, processes or materials which lie outside of the monopoly of the patent licensed; . . . or condition the license so as to control conduct by the licensee not embraced in the patent monopoly . . . ; or upon the maintenance of resale prices by the purchaser of the patented article."

<sup>12</sup> *Morton Salt Co. v. G. S. Suppiger Co.*, 314 U. S. 488, 492.

narrowly and strictly confined to the precise terms of the grant. It is the public interest which is dominant in the patent system.<sup>13</sup> In the *Univis* case,<sup>14</sup> the Supreme Court stated the general principle as follows: "In construing and applying the patent law so as to give effect to the public policy which limits the granted monopoly strictly to the terms of the statutory grant, . . . *the particular form or method by which the monopoly is sought to be extended is immaterial.*" [Italics supplied]

This reasoning would seem to be equally applicable to the situation of the present case as to an infringement case or to an antitrust proceeding. The same considerations of public policy are present; the same major purpose of the Constitution and statute are involved. In fact, the preliminary inquiry of the Patent Office would seem to be the most appropriate occasion of all to investigate and determine whether the intent and purpose of the applicant is consistent with the major purpose of the Constitution and with the public policy. If we assume, as the Supreme Court has held, that (1) the patent monopoly of one invention may not be enlarged for the exploitation of the monopoly of another patent; (2) public policy forbids the use of a patent to secure a monopoly which it is contrary to public policy to grant; (3) the particular form or method by which the monopoly is sought to be extended is immaterial; and if we assume, further, that the purpose and intent of the applicant for a subcombination claim is to violate each of the first three assumptions, why should a patent be granted for the subcombination claim? In such a situation why should it be necessary to license an applicant to violate the law, only to subject him to prosecution when, later, he does violate it?

The logical result, therefore, of the later Supreme Court cases is to forbid the granting of a patent where the purpose of the applicant is clearly revealed to suppress manufacture or use in order to extend the monopoly of another patent or in order to achieve any other objective violative of the law and of the public policy. Whether this result requires, in the Patent Office, procedure to compel an affirmative showing of purpose by each applicant, it is not necessary to determine in the present case. Here, the chronology of the case in the Patent Office suggests, and the admission of appellant confirms, a purpose contrary to the purpose of the Constitution and statute, with respect to the disputed subcombination claims.

This result flows, also, as pointed out in the majority opinion, from the logic of cases forbidding the patenting of broad and misleading claims. The use of many claims to describe an invention, and of subcombination claims to describe what purport to be parts of the main invention, may be merely an expedient for avoiding the prohibition against too broad and misleading claims; i.e., to include unpatentable, or to hedge in undiscovered, devices or methods. When the use of such an expedient seems apparent or probable, then the same rules, as those governing too broad or misleading claims, should be applied. But the application of those rules, to be effective, must be made upon the whole aggregation of claims, not upon each claim separately. This is as true of proceedings under Section 4915 as of proceedings in the Patent Office. The reason for this appears clearly in the present case.

<sup>13</sup> The *Mercoid Corp. v. Mid-Continent Investment Co.*, 320 U. S. 661, 665.

<sup>14</sup> *United States v. Univis Lens Co., Inc.*, 316 U. S. 241, 251-252.



Here the subcombination claims, standing alone, describe a useful machine. But, when that machine is compared with the one revealed by the main invention claims, its utility is lessened, to say the least; and the subcombination claims become suspect. Frank admission of intention to suppress the subcombination for the purpose of *protecting* the main invention completes the picture.

In this case the subcombination claims were not filed by the inventor but by the assignee seeking to enlarge the scope of a purchased invention. Particularly in such cases the Patent Office should be alert to inquire into the purpose which inspires the filing of such claims and should require at least a *prima facie* showing of reasonable expectation that the device, or process described therein, will be used or permitted to be used.

Finally, the same public policy is reflected in the rule which invalidates a patent if the claim upon which it is based is for more than the applicant invented. In the *Marconi* case, the Court said: "The purpose of the rule that a patent is invalid in its entirety if any part of it be invalid is the protection of the public from the threat of an invalid patent, and the purpose of the disclaimer statute is to enable the patentee to relieve himself from the consequences of making an invalid claim if he is able to show both that the invalid claim was inadvertent and that the disclaimer was made without unreasonable neglect or delay."<sup>15</sup> The threat to the public, of an invalid patent, should not be encouraged by a too casual inquiry at its inception. The protection of the public should not be required to await the initiation of an infringement suit or an antitrust prosecution.

Mr. Justice Edgerton concurs in both the foregoing opinions.

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<sup>15</sup> *Marconi Wireless Telegraph Co. v. United States*, 320 U. S. 1, 58.

[fol. 153] UNITED STATES COURT OF APPEALS FOR THE DISTRICT  
OF COLUMBIA, APRIL TERM, 1944

No. 8466

SPECIAL EQUIPMENT COMPANY, Appellant,

vs.

CONWAY P. COE, Commissioner of Patents, Appellee

Appeal from the District Court of the United States for the  
District of Columbia

JUDGMENT

This cause came on to be heard on the transcript of the record from the District Court of the United States for the District of Columbia, and was argued by counsel.

On consideration whereof, It is now here ordered and adjudged by this Court that the judgment of the said District Court appealed from in this cause be, and the same is hereby, affirmed.

Per Mr. Justice Arnold.

Dated June 19, 1944.

Concurring opinion by Mr. Justice Miller.

Mr. Justice Edgerton concurs in both opinions.

[fol. 154]

Original

[Stamp:] United States Court of Appeals for the District  
of Columbia. Filed Jul. 3, 1944. Joseph W. Stewart,  
Clerk

IN THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT  
OF COLUMBIA

Appeal No. 8466

SPECIAL EQUIPMENT COMPANY, Appellant,

v.

CONWAY P. COE, Commissioner of Patents, Appellee

PETITION FOR REHEARING

This petition is filed as it seems clear there was a misapprehension of facts apparently deemed important by the

court, and under such misapprehension the court created and applied a new and novel legal bar to the grant of a patent claim.

Petitioner's inventor Ewald conceived and disclosed a broadly new and highly novel machine for *bobbing, peeling and coring pears*.

So far as the broad invention is concerned, namely, the novel machine for *bobbing, peeling and coring pears*, it can be used *successfully* with or without the splitting attach-[fol. 155] ment; in other words, the pears may be, as in the old prior practice, split by hand and fed to the machine pre-split.

*No patent has yet issued on any part of the invention claimed in the application here involved.*

Certain claims have been allowed in which the splitting knife was specified.

Appellant is, in addition, seeking claims on his *novel combination for bobbing, peeling and coring pears* which do not specify the splitting knife.

It is elementary, as well stated in Walker on Patents, Deller's Edition, page 1232, that a patent may by its claims cover *novel parts* or *subcombinations* of the machine illustrated and described, as well as the entire machine, where he cites cases supporting this proposition. This rule of law is so well established it hardly seems necessary to cite authority. We doubt if one single decision can be found in this country to the contrary. This well established rule is full well recognized by all courts, and has been since the inception of the patent system.

This court found that the claims in controversy were typical subcombination claims; that the suggestion that the subcombination is inoperative when the pear is pre-split by hand is directly contrary to the evidence, particularly to the incontrovertible evidence of the motion picture displayed to the court; and that considered in terms of the [fol. 156] older practices in pear canning, the machine without the inclusion of the splitting knife, namely, the subcombination machine standing alone, represented a *tremendous advance* and an operation which would result in *great saving of manpower and of time*. However, on a rather speculative theory having no support in the record, and contrary to the elementary well established rules of patent law, it held that appellant was not entitled to the claims in issue.

The court so held because it apparently thought that appellant, in seeking the claims, was going contrary to the purpose of the Constitution and statute. On page 8 of Justice Miller's opinion it is stated:

"As a matter of fact, appellant freely admitted both on argument and in its brief in the present case that its purpose in filing the disputed claims was to 'protect' the main invention and that it had no intention of manufacturing the subcombination machine."

Now, as a matter of fact, there were no such admissions, statements or contentions made in the brief or in the record. An examination will so demonstrate. Mr. Prangley, who argued the case before this court on behalf of appellant, and Mr. Moore, who was present throughout the argument, here say of record that the court must have been under a misapprehension, as no admissions, statements or concessions made at the argument were intended to even indicate that appellant had no intention now or in the future of manufacturing or using the subcombination machine. It is, therefore, unfortunate indeed that the court obviously misunderstood counsel's argument.

It is elementary that a patentee does not have to say why he seeks a claim, and, therefore, there would be no reason for appellant's saying whether it intended to manufacture under any of the claims. If a combination or subcombination is patentable under the law the inventor is, as a matter of right, entitled to a claim on such combination or subcombination without giving any reason as the law does that for him.

Appellant's counsel said, on page 17 of its main brief, "The claims in issue are sought purely to prevent appropriation of the Ewald machine by the obvious expedient of eliminating the splitting mechanism," but that is a far cry from saying—if it were material—that appellant had "*no intention*" of manufacturing the subcombination machine. *They were only saying what the law says for the inventor.* That is the purpose of every claim. That is the purpose of the statute based on the Constitution.

A claim never gives a patentee the right to manufacture, sell or use; it only gives him the right to *exclude* others from manufacturing, selling or using. Therefore, why should he say he intends to manufacture or use.

It is the purpose of every patent and every claim, if the applicant is properly presented and he is given that to [fol. 158] which the law says he is entitled, to obtain claims protecting his main invention. Here the main invention is a machine for *bobbing, peeling and coring pears*. Ewald is certainly entitled to a claim on such combination, particularly when this court finds that it was a *tremendous advantage over the old practice* and machines, and particularly where no reference is cited or can be cited which would vitiate the novelty of this combination without the splitting knives.

The undisputed testimony of Skog shows that Ewald's main invention was successfully utilized both with and without the splitting knife. It further shows (R. 23) that in the original machine the ears were pre-split by hand before they went into the machine, and that is exactly what appellant did in November, 1931, or about a year before the trial (R. 23). Further, the Ewald application, as originally filed October 6, 1932, and on which *no patent has yet issued, shows on its face* (R. 8) that original Claim 1 then presented was drawn to Ewald's main invention and did not include a pre-splitting feature. *It is thus clear that the inventor contemplated from the outset the use of his important revolutionary invention for bobbing, peeling and coring pears whether the pears had been pre-split or not.*

Appellant has the right and reserves the right to use or license others so to do, when he so desires, his important invention for bobbing, peeling and coring pears either when [fol. 159] the pears are pre-split by hand or split in the machine. It was definitely the inventor's intention so to do from the outset, as shown by the undisputed evidence in this record, and it is appellant's present and future intention so to do whenever and wherever deemed advisable, direct or through license.

The inventor's combination, with or without the splitting mechanism, is entirely new and novel, and as found by this court, is a *tremendous advance* over the old previous operations or machines. Clearly, therefore, appellant is entitled to claims protecting the broad invention disclosed in the application here involved. You may as well argue that one who invented an automobile could not claim that invention unless he included the starter shown in his drawings, or one who invented a new and novel threshing machine could not protect that threshing machine unless he

claimed a band cutter illustrated in the disclosure, or a new and novel washing machine unless he included in his claims a wringer illustrated in his drawings.

There is no evidence in the record whatever concerning appellant's *intentions* not to license others to manufacture or use any of its claims without the splitting knife, and nothing concerning such intentions is to be found in the brief, nor was any reference thereto made in the argument.

Even if material, which it is not, there is nothing in the Constitution, or in any statute, or in any court decision which makes an applicant's *current intention not to use* [fol. 160] his invention a test of his right to obtain a patent. The decisions cited in the court's opinion merely refused to enforce patents which were *then being misused*. In none was the patent held invalid because of misuse.

There is no evidence whatsoever in this case that the patent, if granted to the appellant with the subcombination claims, would be misused.

Under the Supreme Court decisions cited by this honorable court, misuse would only be a ground for refusing to enforce the patent, but not for refusing to issue the patent. Moreover, the patent would be enforceable after such misuse terminated.

The theory on which the court denied appellant relief is a point which was not raised by the government, and was not argued or briefed by either side. Therefore, it would be a pity indeed to deprive this appellant of property of *tremendous value* on a point on which it has not been heard.

It is a basic rule of the patent law, of which this honorable court must be cognizant, that a patentee need make no use whatsoever of his invention, but may, so to speak, set his patent on the shelf and obtain his reward either by licensing others or by obtaining damages or profits from one who will not take a license but yet adopts his invention.

[fol. 161] Moreover, there is no evidence whatsoever to indicate to the court that appellant will not on a reasonable basis license others to manufacture, use and sell the invention of tremendous value covered by the subcombination claims in issue. Obviously, even if appellant did in fact have the intention imputed to it by the court, which it de-



nies, that intention, even if effected, would not constitute a misuse of the patent except on further evidence, of which there is not the slightest hint anywhere in the record, that appellant intended not to license anyone under the claims in issue.

But supposing, without admitting, for the sake of argument, that appellant's *intention* today was not to use his pioneer invention without the splitting knife, who can say what his intention will be next week, next month or next year? Supposing appellant, either by itself or through licensees, even before this patent issues, proceeds on a very extensive scale to use commercially the Ewald pioneer invention of tremendous value without the splitting knife, by feeding the pears pre-split, is it reasonable that a claim covering that important pioneer invention be now refused?

If the proposition of law pronounced by this honorable court has an application, it certainly would not be in denying a claim before the patent is issued and before anyone actually knows just what use will be made of the patent after issuance. It would be high time to apply such a rule as a *defensive point* after the patent has been issued and [fol. 162] after the owner has actually done something *clearly establishing a misuse*.

Counsel have the utmost confidence that, if given the opportunity for a rehearing, they can demonstrate to the satisfaction of the court that appellant is entitled to the claims in question covering his pioneer, novel and useful device for bobbing, peeling and coring pears, whether the pears are fed pre-split or otherwise.

Respectfully submitted, Ballard Moore, Attorney for Appellant, National Press Building, Washington, D. C.; Clarence J. Loftus, of Counsel for Appellant, 135 South LaSalle Street, Chicago, Illinois; Curtis F. Prangley and James M. Graves, Attorneys and Counsel for Appellant, National Press Building, Washington, D. C.

C. J. L.

July 1, 1944.

Service of the foregoing Petition for Rehearing and copy acknowledged this 3d day of July, 1944.

W. W. Cochran, Solicitor, United States Patent Office,  
Attorney for Appellee.



[fol. 163] [Stamp:] United States Court of Appeals for the District of Columbia. Filed Jul. 6, 1944. Joseph W. Stewart, clerk.

Original

UNITED STATES COURT OF APPEALS, DISTRICT OF COLUMBIA

No. 8466

SPECIAL EQUIPMENT Co. (Substituted) MARK EWALD,  
Appellant,

v.

CONWAY P. COE, Commissioner of Patents, Appellee

Memorandum for Appellee on Appellant's Petition for Rehearing

It is noted that although the appellant's petition for rehearing states that his attorney did not admit, at the hearing, that appellant had no intention of using his machine without a splitting knife between the two turrets, it is not asserted, even now, that there is any intention of such use. Since the testimony of the appellant's witness Skog (appellant's appendix, 25) was to the effect that there is no known advantage in using the machine without the knife and that there are disadvantages, it seems apparent that such use is not contemplated. The statement on page 5 of the petition that "in the original machine the pears were pre-split by hand before they went into the machine and that is exactly what appellant did in November 1941" is misleading, if not inaccurate. Skog testified (appellant's appendix, page 23) with regard to pre-splitting, that "The original [fol. 164] machine that Mr. Ewald started to devise was started that way. The idea was to *split and bob* the pears before they went into the machine" (emphasis added). The claims here involved call for a machine which bobs the pears, and there is no evidence whatever that Ewald ever thought of splitting pears before placing them in such a machine. On the contrary, Skog testified that this idea was first tried about a year before the trial (long after the application was filed) and that it was suggested by appellant's attorneys and not by Ewald who now seeks to claim it as a part of his invention. The original machine which "Mr.

Ewald started to devise" and which apparently did not get beyond the starting phase, obviously did not include a bobbing turret and hence was not pertinent to the present issue.

It is thought that, so far as the facts are concerned, the petition for rehearing fails to point out any error in the Court's decision. So far as the law is concerned, it advances nothing which was not presented prior to such decision.

Respectfully submitted, W. W. Cochran, Solicitor,  
United States Patent Office, Attorney for Appellee.

E. L. Reynolds, Of Counsel.

July 5, 1944.

I hereby certify that a copy of this Memorandum was mailed today, July 5, 1944 to the attorney for appellant, Loftus, Moore, Olson & Trexler, 135 S. LaSalle Street, Chicago 3, Illinois, and James M. Graves, National Press Building, Washington, D. C.

W. W. Cochran, Solicitor.

[fol. 165]

Original

[Stamp:] United States Court of Appeals for the District of Columbia, filed July 10, 1944, Joseph W. Stewart, Clerk.

IN THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT  
OF COLUMBIA

Appeal No. 8466

SPECIAL EQUIPMENT COMPANY, Appellant,

v.

CONWAY P. COE, Commissioner of Patents, Appellee

*Appellant's Reply to Appellees' Memorandum on Appellant's Petition for Rehearing*

Point I

Appellee says that "it is not asserted, even now, that there is any intention" to use appellant's invention with-

out the splitting knife. Evidently counsel for appellee did not read the statement at the top of page 6 of appellant's petition where it is stated "It is appellant's *present and future intention*" to use the machine without the splitting knife "whenever and wherever deemed advisable, *direct or through licensees.*", and we again here repeat that it is appellant's definite present intention so to do.

## Point II

Appellee refers to a statement made in the petition to the effect that the evidence shows that in the original machine [fol. 166] the pears were pre-split by hand before they went into the machine. The witness Skog, on cross examination by the Government's attorney, was asked (R. 23):

"When did you first try using this machine with pre-split pears?"

and he answered:

"The original machine that Mr. Ewald started to devise was started that way.";

then the witness goes on to say that the original idea was to split and bob the pears before they went into the machine and then to core and stem by hand afterwards. The latter part of the answer must refer to an old practice which existed prior to Ewald because he says the idea was to split and bob the pears before they went into the machine and then to core and stem *by hand afterwards*. Certainly the type of operation of coring and stemming by hand afterwards could not apply to the general type of Ewald machine here involved because in the general type of Ewald machine here involved the pears are not cored and stemmed by hand afterwards. However the first part of that answer, that the original machine that Mr. Ewald started to devise was started that way, is perfectly clear and definitely shows that at that time Ewald had in mind pre-splitting.

It is thus clear that the statement in appellee's reply that there is no evidence whatever that Ewald ever thought of splitting pears before placing them in such a machine is inconsistent with the record. Skog was further asked upon cross examination (R. 23):

[fol. 167] "When did you first pre-split pears before putting them in a *bobbing* machine?"

He answered:

"That was tried out, oh, about a year ago."

and in answer to the next question the witness said:

"*It was done* at our attorney's suggestion."

It is perfectly clear that what the witness meant was that the actual pre-splitting of the pears before putting them in the machine was done at the request of the attorneys in order that they might be definitely advised as to the operation from actual demonstration rather than resting on an opinion.

### Point III

When appellees' attorney says that the idea or suggestion of the Ewald machine without the splitting knife was not suggested by Ewald he is entirely in error. That is illustrated by the fact that when Ewald filed his application originally under oath he set forth (R. 80) his original Claim 1 which does not specify or include the splitting knife. That fact alone uncontrovertibly establishes that Ewald *from the outset* definitely had the idea of claiming the machine without a splitting knife and that the idea was suggested by Ewald himself at that time.

### Point IV

Appellee's attorney says that the machine which "Mr. Ewald started to devise" obviously did not include a bobbing turret and hence was not pertinent to the present issue. There is no support for that statement in the record.

[fol. 168]

### Point V

The decision of this Court is contrary to the long well established rule relating to sub-combination claims. We said in our petition for rehearing that it is elementary that a patent may by its claims cover novel parts or sub-combinations of the machine illustrated or described as well as the entire machine, and we thought it unnecessary to cite authorities. However appellees' attorney says that so far as the law is concerned nothing is advanced which was not presented prior to the Court's decision. Therefore we

desire to call this Court's attention to Robinson on Patents, Vol. II, Sec. 528, page 143, and Walker on Patents, Deller's Edition, Sec. 166, page 788, where a long line of cases are collected and cited in the Supreme and subordinate Courts, which show the rule long and well established.

We hope that the Court will examine and consider those well recognized authorities.

Respectfully submitted, Ballard Moore, Attorney for Appellant, National Press Building, Washington, D. C.

Clarence J. Loftus, of Counsel for Appellant, 135 South LaSalle Street, Chicago, Illinois.

Curtis F. Prangley, James M. Graves, Attorneys and Counsel for Appellant, National Press Building, Washington, D. C.

C. J. L.

July 7, 1944

[fol. 169] Service of the foregoing Reply and copy acknowledged this 10th day of July, 1944.

W. W. Cochran, Solicitor, United States Patent Office, Attorney for Appellee.

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[fol. 170] Tuesday, July 18th A. D., 1944

Before Honorable Justin Miller, Henry W. Edgerton and Thurman Arnold, Associate Justices, in Chambers.

April Term 1944

No. 8466

SPECIAL EQUIPMENT COMPANY, Appellant,

VS.

CONWAY P. COE, Commissioner of Patents, Appellee

ORDER

On consideration of appellant's petition for rehearing, appellees' objections thereto, and appellant's response, in the above-entitled case, It is

Ordered by the Court that the petition be, and it is hereby, denied.

Dated July 18, 1944.

Per Curiam.

[fol. 171] [Stamp:] United States Court of Appeals for the District of Columbia. Filed Aug. 7, 1944, Joseph W. Stewart, Clerk.

IN THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT  
OF COLUMBIA

Appeal No. 8466

SPECIAL EQUIPMENT COMPANY, Appellant,

v.

CONWAY P. COE, Commissioner of Patents, Appellee

Designation of Record

The Clerk will please prepare a certified transcript of record for use on petition to the Supreme Court of the United States for writ of certiorari in the above-entitled cause, and include therein the following:

1. Appendix to appellant's brief.
2. Minute entry of argument.
3. Opinion.
4. Judgment.
5. Petition for rehearing.
6. Memorandum for Appellee on Appellant's Petition for Rehearing.
7. Appellant's reply to Appellee's Memorandum on Appellant's Petition for Rehearing.
- [fol. 172] 8. Minute entry of denial of petition for rehearing.
9. This designation.
10. Clerk's Certificate.

Ballard Moore, Attorney for Appellant, National Press Building, Washington, D. C.

Clarence J. Loftus, of Counsel for Appellant, 135 South LaSalle Street, Chicago, Illinois.

Curtis F. Prangle, James M. Graves, Attorneys and Counsel for Appellant, National Press Building, Washington, D. C.

Service of the foregoing Designation of Record and copy acknowledged this 7th day of August, 1944.

W. W. Cochran, Solicitor, U. S. Patent Office, Attorney for Appellee.

[fol. 173] SUPREME COURT OF THE UNITED STATES

ORDER ALLOWING CERTIORARI--Filed November 6, 1944

The petition herein for a writ of certiorari to the United States Court of Appeals for the District of Columbia is granted.

And it is further ordered that the duly certified copy of the transcript of the proceedings below which accompanied the petition shall be treated as though filed in response to such writ.

(5566)